

EPHEMERIDES

12 3.9

12 4.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
266215	2006 <i>WR</i> ₁₅₇	12 3.9 68°36'	4.6°/ 5.1 18				354374	2003 <i>RR</i> ₈	12 3.9 30°72'	3.8°/ 5.4 17			
10 28	5 16.72	+31 43.0	1.365	2.171	19.4	20.2	10 28	5 17.12	+33 26.5	0.915	1.750	24.6	19.3
11 7	5 11.51	+32 19.1	1.305	2.186	15.4	20.0	11 7	5 11.90	+32 55.4	0.896	1.793	19.1	19.1
11 17	5 2.52	+32 43.0	1.264	2.201	10.9	19.8	11 17	5 2.39	+32 3.7	0.893	1.839	12.9	18.9
11 27	4 50.83	+32 49.9	1.247	2.216	6.4	19.6	11 27	4 50.47	+30 51.4	0.911	1.886	6.8	18.8
12 7	4 38.14	+32 37.6	1.256	2.231	4.7	19.5	12 7	4 38.51	+29 24.7	0.953	1.934	3.9	18.8
12 17	4 26.35	+32 8.5	1.291	2.246	7.9	19.8	12 17	4 28.55	+27 53.4	1.020	1.983	8.1	19.2
12 27	4 17.13	+31 29.2	1.351	2.261	12.2	20.1	12 27	4 21.96	+26 28.4	1.109	2.032	13.0	19.6
1 6	4 11.47	+30 47.5	1.434	2.277	16.1	20.3	1 6	4 19.20	+25 16.9	1.220	2.082	17.1	20.0
298596	2003 <i>YM</i> ₁₁₄	12 3.9 347°11'	0°8'/ 4.2 18				265460	2005 <i>AG</i> ₁₂	12 3.9 30°19'	4°8'/ 3.2 18			
10 28	5 8.47	+25 52.0	1.534	2.355	17.0	19.9	10 28	5 7.80	+ 8 13.7	1.994	2.796	14.3	19.7
11 7	5 4.74	+25 36.7	1.455	2.349	13.2	19.6	11 7	5 3.22	+ 8 5.4	1.924	2.802	11.3	19.6
11 17	4 57.95	+25 12.8	1.396	2.345	8.8	19.4	11 17	4 56.46	+ 8 4.8	1.875	2.809	8.1	19.4
11 27	4 48.92	+24 40.0	1.362	2.341	3.9	19.1	11 27	4 48.19	+ 8 14.4	1.853	2.816	5.4	19.2
12 7	4 38.93	+23 59.9	1.354	2.337	1.7	18.9	12 7	4 39.30	+ 8 35.3	1.859	2.824	5.0	19.2
12 17	4 29.44	+23 16.1	1.373	2.335	6.7	19.2	12 17	4 30.81	+ 9 7.9	1.894	2.832	7.4	19.4
12 27	4 21.85	+22 33.9	1.418	2.333	11.4	19.5	12 27	4 23.64	+ 9 51.3	1.955	2.840	10.5	19.6
1 6	4 17.09	+21 58.1	1.486	2.331	15.5	19.7	1 6	4 18.50	+10 43.6	2.041	2.848	13.4	19.8
475820	2007 <i>AB</i> ₁₃	12 3.9 17°23'	1°5'/ 3.9 18				412470	2014 <i>HR</i> ₂₅	12 3.9 207°18'	2°2'/ 3.2 18			
10 28	5 7.80	+17 42.9	0.931	1.791	22.2	20.0	10 28	5 10.47	+17 29.1	2.097	2.898	13.7	22.0
11 7	5 5.39	+18 6.8	0.882	1.799	17.2	19.7	11 7	5 5.32	+16 58.4	2.009	2.894	10.6	21.8
11 17	4 58.89	+18 34.4	0.850	1.808	11.3	19.4	11 17	4 57.88	+16 26.4	1.945	2.889	7.1	21.6
11 27	4 49.40	+19 5.1	0.839	1.820	4.9	19.1	11 27	4 48.81	+15 54.8	1.908	2.884	3.5	21.3
12 7	4 38.75	+19 37.9	0.850	1.833	2.6	19.0	12 7	4 39.04	+15 25.8	1.900	2.879	2.8	21.3
12 17	4 29.01	+20 12.2	0.884	1.848	8.7	19.5	12 17	4 29.59	+15 2.0	1.922	2.873	6.2	21.5
12 27	4 22.02	+20 48.4	0.939	1.865	14.4	19.8	12 27	4 21.50	+14 45.8	1.972	2.866	9.9	21.7
1 6	4 18.82	+21 27.1	1.014	1.883	19.2	20.2	1 6	4 15.50	+14 38.7	2.047	2.859	13.1	21.9
60269	1999 <i>XN</i> ₄₆	12 3.9 39°64'	0°2'/ 3.9 18				493179	2014 <i>UB</i> ₁₂	12 3.9 58°96'	1°1'/ 4.4 18			
10 28	5 11.55	+24 37.4	1.226	2.058	19.7	19.0	10 28	5 8.72	+26 38.9	2.150	2.947	13.5	21.1
11 7	5 7.46	+24 2.2	1.167	2.068	15.3	18.8	11 7	5 3.91	+26 31.2	2.077	2.959	10.5	20.9
11 17	4 59.80	+23 17.5	1.126	2.078	10.0	18.5	11 17	4 56.88	+26 16.8	2.028	2.971	7.0	20.7
11 27	4 49.66	+22 24.6	1.109	2.089	4.2	18.2	11 27	4 48.35	+25 55.5	2.006	2.984	3.2	20.5
12 7	4 38.67	+21 27.2	1.117	2.101	1.9	18.1	12 7	4 39.27	+25 28.1	2.013	2.996	1.5	20.4
12 17	4 28.59	+20 31.2	1.151	2.113	7.6	18.5	12 17	4 30.67	+24 56.8	2.050	3.009	5.1	20.7
12 27	4 20.94	+19 42.9	1.210	2.126	12.8	18.8	12 27	4 23.51	+24 25.0	2.114	3.021	8.6	20.9
1 6	4 16.59	+19 6.9	1.290	2.139	17.2	19.1	1 6	4 18.45	+23 56.1	2.204	3.034	11.7	21.1
215166	2000 <i>CQ</i> ₄₀	12 3.9 325°00'	1°8'/ 3.6 17				494754	2005 <i>YU</i> ₁₄₁	12 3.9 281°91'	2°5'/ 3.4 18			
10 28	5 6.72	+18 15.9	1.415	2.248	17.5	20.2	10 28	5 8.52	+14 28.0	2.211	3.012	13.1	21.3
11 7	5 3.81	+18 13.5	1.321	2.224	13.7	19.9	11 7	5 3.87	+14 26.4	2.111	2.995	10.2	21.1
11 17	4 57.68	+18 11.5	1.248	2.200	9.2	19.6	11 17	4 57.01	+14 27.5	2.035	2.978	6.9	20.8
11 27	4 48.97	+18 10.9	1.198	2.178	4.2	19.3	11 27	4 48.50	+14 32.6	1.985	2.960	3.6	20.6
12 7	4 38.86	+18 12.9	1.173	2.156	2.6	19.1	12 7	4 39.16	+14 42.6	1.965	2.943	2.9	20.5
12 17	4 28.90	+18 19.2	1.175	2.135	7.8	19.4	12 17	4 29.96	+14 58.3	1.974	2.925	6.1	20.7
12 27	4 20.70	+18 31.7	1.201	2.115	13.0	19.6	12 27	4 21.90	+15 20.2	2.012	2.907	9.7	20.9
1 6	4 15.45	+18 52.0	1.248	2.097	17.7	19.8	1 6	4 15.77	+15 48.7	2.075	2.890	12.9	21.0
184423	2005 <i>NY</i> ₆	12 3.9 63°71'	3°1'/ 4.8 18				320100	2007 <i>ET</i> ₁₁₄	12 3.9 139°40'	4°8'/ 2.1 18			
10 28	5 20.98	+29 4.3	1.344	2.148	19.8	19.9	10 28	5 6.54	+ 8 49.8	2.382	3.177	12.4	20.9
11 7	5 14.19	+29 29.8	1.304	2.186	15.4	19.7	11 7	5 1.89	+ 8 1.4	2.307	3.181	9.9	20.8
11 17	5 3.84	+29 44.4	1.284	2.224	10.4	19.5	11 17	4 55.43	+ 7 17.3	2.256	3.185	7.2	20.6
11 27	4 51.21	+29 44.4	1.288	2.261	5.4	19.4	11 27	4 47.72	+ 6 40.8	2.232	3.189	5.1	20.5
12 7	4 38.07	+29 29.5	1.319	2.298	3.4	19.3	12 7	4 39.54	+ 6 14.9	2.237	3.193	5.1	20.5
12 17	4 26.22	+29 2.9	1.377	2.335	7.2	19.7	12 17	4 31.68	+ 6 1.5	2.271	3.197	7.1	20.6
12 27	4 17.08	+28 31.0	1.462	2.371	11.5	20.0	12 27	4 24.93	+ 6 1.5	2.333	3.200	9.7	20.8
1 6	4 11.41	+27 59.9	1.569	2.407	15.2	20.3	1 6	4 19.88	+ 6 14.3	2.419	3.204	12.2	21.0
43960	1997 <i>CE</i> ₂₇	12 3.9 74°59'	2°9'/ 4.9 18				442415	2011 <i>UH</i> ₁₀₈	12 3.9 68°94'	4°2'/ 4.6 18			
10 28	5 17.56	+30 32.2	1.406	2.211	19.0	18.7	10 28	5 16.71	+29 58.6	1.740	2.531	16.5	20.4
11 7	5 11.66	+30 27.6	1.352	2.235	14.9	18.5	11 7	5 10.89	+31 7.7	1.674	2.547	13.1	20.2
11 17	5 2.28	+30 9.9	1.318	2.259	10.2	18.3	11 17	5 1.91	+32 10.0	1.630	2.562	9.2	20.0
11 27	4 50.61	+29 37.0	1.308	2.282	5.2	18.1	11 27	4 50.59	+33 0.2	1.611	2.578	5.6	19.8
12 7	4 38.30	+28 50.1	1.326	2.306	3.1	18.0	12 7	4 38.28	+33 34.4	1.621	2.593	4.4	19.8
12 17	4 27.08	+27 53.9	1.370	2.330	7.0	18.3	12 17	4 26.52	+33 52.0	1.659	2.609	7.1	20.0
12 27	4 18.39	+26 55.8	1.441	2.353	11.5	18.7	12 27	4 16.75	+33 56.1	1.724	2.625	10.7	20.3
1 6	4 12.99	+26 2.6	1.535	2.376	15.4	19.0	1 6	4 9.94	+33 52.0	1.814	2.640	14.0	20.5
89022	2001 <i>TX</i> ₉₄	12 3.9 149°27'	1°4'/ 4.5 18				240964	2006 <i>HO</i> ₈₈	12 3.9 154°50'	3°1'/ 4.6 18			
10 28	5 10.55	+27 6.7	2.051	2.847	14.1	20.1	10 28	5 15.98	+28 40.5	2.042	2.825	14.6	20.4
11 7	5 5.55	+27 4.4	1.969	2.849	11.0	19.9	11 7	5 9.95	+29 30.7	1.960	2.831	11.5	20.2
11 17	4 58.09	+26 55.0	1.909	2.851	7.4	19.7	11 17	5 1.13	+30 15.6	1.901	2.835	8.0	20.0
11 27	4 48.89	+26 37.6	1.876	2.852	3.5	19.5	11 27	4 50.25	+30 51.3	1.870	2.840	4.5	19.8
12 7	4 38.98	+26 12.6	1.871	2.854	1.8	19.4	12 7	4 38.42	+31 15.3	1.868	2.844	3.2	19.7
12 17	4 29.49	+25 42.1	1.896	2.855	5.5	19.6	12 17	4 26.93	+31 27.2	1.895	2.848	6.1	19.9
12 27	4 21.52	+25 9.8	1.950	2.856	9.2	19.8	12 27	4 17.07	+31 29.2	1.951	2.851	9.7	20.2
1 6	4 15.82	+24 39.6	2.028	2.858	12.6	20.1	1 6	4 9.74	+31 25.5	2.033	2.854	12.9	20.4
54076	2000 <i>GL</i> ₁₅₄	12 3.9 40°83'	3°0'/ 4.9 18				447587	2006 <i>UQ</i> ₂₆	12 4.0 324°96'	2°7'/ 3.			

EPHEMERIDES

12 4.0

12 4.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
327754	2006 <i>TQ</i> ₉₅	12 4.0 91°52'	2°2'	4.5	17		251952	1999 <i>XM</i> ₉₁	12 4.0 343°63'	8°0'	3.8	17	
10 28	5 19.65	+27 22.2	1.557	2.355	17.8	21.3	10 28	5 10.45	- 0 57.1	1.799	2.582	16.3	19.2
11 7	5 12.95	+27 39.8	1.503	2.383	13.8	21.2	11 7	5 5.65	- 0 52.2	1.718	2.574	13.6	19.0
11 17	5 3.02	+27 49.3	1.469	2.410	9.3	21.0	11 17	4 58.30	- 0 29.7	1.657	2.566	10.8	18.8
11 27	4 50.94	+27 47.8	1.461	2.437	4.5	20.8	11 27	4 49.09	+ 0 14.3	1.620	2.559	8.6	18.7
12 7	4 38.22	+27 35.0	1.482	2.463	2.5	20.7	12 7	4 39.00	+ 1 21.3	1.611	2.552	8.2	18.6
12 17	4 26.45	+27 13.3	1.531	2.489	6.6	21.0	12 17	4 29.20	+ 2 49.7	1.628	2.547	10.0	18.7
12 27	4 16.99	+26 47.6	1.607	2.514	10.9	21.3	12 27	4 20.84	+ 4 35.4	1.673	2.542	12.8	18.9
1 6	4 10.65	+26 23.1	1.707	2.538	14.5	21.6	1 6	4 14.76	+ 6 32.8	1.742	2.538	15.8	19.1
124066	2001 <i>FG</i> ₁₇₅	12 4.0 156°42'	5°0'	2.1	18		43890	Katiaottani	12 4.0 110°81'	1°7'	4.5	18	
10 28	5 6.25	+ 4 11.5	2.969	3.744	10.7	20.3	10 28	5 18.01	+27 21.0	1.736	2.529	16.4	20.3
11 7	5 1.29	+ 3 37.3	2.895	3.751	8.7	20.2	11 7	5 11.47	+27 24.6	1.673	2.551	12.8	20.1
11 17	4 54.87	+ 3 9.6	2.845	3.758	6.7	20.0	11 17	5 2.00	+27 20.1	1.632	2.573	8.5	19.9
11 27	4 47.46	+ 2 51.1	2.822	3.764	5.2	20.0	11 27	4 50.54	+27 5.6	1.617	2.593	4.0	19.7
12 7	4 39.67	+ 2 43.6	2.830	3.770	5.2	20.0	12 7	4 38.45	+26 41.6	1.631	2.613	2.1	19.6
12 17	4 32.15	+ 2 48.1	2.867	3.775	6.6	20.1	12 17	4 27.15	+26 10.7	1.674	2.633	6.1	19.9
12 27	4 25.51	+ 3 4.8	2.932	3.780	8.6	20.2	12 27	4 17.89	+25 37.5	1.746	2.651	10.2	20.2
1 6	4 20.24	+ 3 32.5	3.022	3.784	10.5	20.4	1 6	4 11.45	+25 6.8	1.841	2.669	13.8	20.4
161673	2006 <i>DH</i> ₂₁₁	12 4.0 75°81'	0°9'	3.8	18		522015	2015 <i>XW</i> ₂₆₈	12 4.0 94°56'	0°2'	4.1	18	
10 28	5 12.78	+20 58.6	1.649	2.460	16.4	20.4	10 28	5 9.37	+25 17.5	2.127	2.926	13.6	21.3
11 7	5 7.43	+20 44.0	1.589	2.479	12.6	20.2	11 7	5 4.44	+24 46.2	2.048	2.931	10.5	21.1
11 17	4 59.35	+20 26.3	1.551	2.499	8.2	20.0	11 17	4 57.26	+24 7.7	1.991	2.936	6.9	20.8
11 27	4 49.41	+20 6.2	1.539	2.518	3.5	19.8	11 27	4 48.55	+23 22.9	1.962	2.941	2.9	20.6
12 7	4 38.87	+19 45.3	1.554	2.537	1.8	19.7	12 7	4 39.28	+22 33.7	1.962	2.946	1.2	20.5
12 17	4 29.04	+19 26.2	1.599	2.557	6.4	20.0	12 17	4 30.47	+21 43.4	1.992	2.951	5.3	20.8
12 27	4 21.09	+19 11.7	1.670	2.576	10.6	20.3	12 27	4 23.11	+20 56.0	2.051	2.956	9.0	21.0
1 6	4 15.76	+19 4.1	1.765	2.595	14.2	20.6	1 6	4 17.85	+20 15.0	2.135	2.961	12.2	21.2
177721	2005 <i>GM</i> ₂₀₂	12 4.0 256°32'	1°3'	4.2	18		61812	2000 <i>QP</i> ₁₈₉	12 4.0 176°89'	0°9'	3.8	18	
10 28	5 14.67	+24 12.5	1.568	2.377	17.2	21.0	10 28	5 13.08	+19 19.8	1.820	2.625	15.3	19.8
11 7	5 9.77	+24 35.4	1.477	2.365	13.5	20.7	11 7	5 7.74	+19 27.1	1.739	2.626	11.9	19.6
11 17	5 1.50	+24 54.9	1.407	2.353	9.1	20.4	11 17	4 59.70	+19 34.0	1.681	2.627	7.8	19.4
11 27	4 50.58	+25 8.4	1.361	2.340	4.1	20.1	11 27	4 49.68	+19 40.4	1.648	2.627	3.4	19.1
12 7	4 38.30	+25 14.6	1.344	2.327	2.0	19.9	12 7	4 38.78	+19 46.4	1.645	2.628	1.8	19.0
12 17	4 26.27	+25 13.7	1.354	2.314	7.0	20.2	12 17	4 28.28	+19 52.9	1.670	2.628	6.2	19.3
12 27	4 16.14	+25 9.0	1.390	2.300	12.0	20.4	12 27	4 19.39	+20 1.5	1.723	2.627	10.4	19.5
1 6	4 9.07	+25 4.5	1.449	2.286	16.3	20.7	1 6	4 12.98	+20 14.0	1.801	2.626	14.1	19.8
515978	2015 <i>RJ</i> ₁₈₅	12 4.0 93°18'	4°4'	2.5	18		441731	2009 <i>BD</i> ₆₉	12 4.0 319°76'	7°4'	2.9	16	
10 28	5 8.66	+12 21.8	1.949	2.756	14.4	21.4	10 28	5 9.62	+ 4 20.1	1.605	2.410	17.0	21.3
11 7	5 3.88	+11 29.2	1.880	2.764	11.3	21.2	11 7	5 5.31	+ 3 56.4	1.526	2.402	13.9	21.1
11 17	4 56.88	+10 39.0	1.834	2.773	7.9	21.0	11 17	4 58.24	+ 3 45.0	1.467	2.393	10.6	20.9
11 27	4 48.38	+ 9 54.8	1.815	2.782	5.0	20.8	11 27	4 49.11	+ 3 50.6	1.432	2.385	7.9	20.7
12 7	4 39.32	+ 9 20.3	1.824	2.791	4.8	20.8	12 7	4 39.02	+ 4 16.2	1.423	2.377	7.7	20.7
12 17	4 30.73	+ 8 58.1	1.862	2.800	7.5	21.0	12 17	4 29.24	+ 5 2.3	1.440	2.369	10.1	20.8
12 27	4 23.57	+ 8 49.8	1.926	2.808	10.7	21.2	12 27	4 21.05	+ 6 7.0	1.483	2.362	13.5	21.0
1 6	4 18.49	+ 8 55.1	2.014	2.817	13.7	21.5	1 6	4 15.38	+ 7 26.4	1.548	2.356	16.9	21.2
215302	2001 <i>SN</i> ₁₃₅	12 4.0 81°49'	1°9'	3.4	18		224081	2005 <i>NM</i> ₇₄	12 4.0 121°84'	2°5'	3.5	18	
10 28	5 9.66	+18 19.9	1.913	2.722	14.5	20.5	10 28	5 13.96	+16 32.4	1.650	2.459	16.5	21.1
11 7	5 4.76	+17 55.4	1.844	2.733	11.2	20.3	11 7	5 8.44	+16 19.4	1.582	2.470	12.8	20.9
11 17	4 57.51	+17 29.7	1.797	2.744	7.4	20.1	11 17	5 0.12	+16 7.4	1.535	2.481	8.5	20.7
11 27	4 48.65	+17 4.3	1.777	2.754	3.4	19.9	11 27	4 49.81	+15 57.8	1.514	2.491	4.1	20.5
12 7	4 39.20	+16 41.4	1.785	2.765	2.5	19.8	12 7	4 38.76	+15 52.2	1.521	2.500	3.0	20.4
12 17	4 30.25	+16 23.2	1.822	2.776	6.2	20.1	12 17	4 28.28	+15 52.1	1.556	2.510	7.1	20.7
12 27	4 22.82	+16 11.8	1.887	2.787	9.9	20.3	12 27	4 19.62	+15 59.2	1.619	2.519	11.3	20.9
1 6	4 17.60	+16 8.8	1.976	2.798	13.2	20.6	1 6	4 13.60	+16 14.2	1.704	2.527	14.9	21.2
186388	2002 <i>JB</i> ₁₁₆	12 4.0 114°11'	1°2'	4.4	18		326844	2003 <i>UJ</i> ₁₁₆	12 4.0 56°54'	5°0'	4.9	17	
10 28	5 12.75	+25 30.5	3.033	3.805	10.6	20.9	10 28	5 14.66	+34 0.5	2.131	2.903	14.4	20.4
11 7	5 6.32	+25 59.4	2.962	3.829	8.2	20.7	11 7	5 8.99	+35 11.9	2.058	2.915	11.7	20.2
11 17	4 58.17	+26 24.6	2.917	3.853	5.4	20.6	11 17	5 0.55	+36 14.9	2.008	2.927	8.6	20.0
11 27	4 48.86	+26 44.9	2.901	3.876	2.6	20.4	11 27	4 50.05	+37 4.5	1.985	2.939	6.0	19.9
12 7	4 39.12	+26 59.6	2.917	3.899	1.4	20.4	12 7	4 38.62	+37 37.4	1.990	2.952	5.1	19.9
12 17	4 29.71	+27 8.9	2.966	3.921	4.0	20.6	12 17	4 27.56	+37 52.8	2.025	2.964	6.9	20.0
12 27	4 21.38	+27 14.1	3.046	3.942	6.7	20.8	12 27	4 18.13	+37 53.4	2.087	2.976	9.6	20.2
1 6	4 14.69	+27 17.3	3.153	3.963	9.0	21.0	1 6	4 11.24	+37 44.0	2.173	2.989	12.4	20.4
386723	2009 <i>YE</i> ₇	12 4.0 184°32'	0°5'	30.1	15		180000	2002 <i>YT</i>	12 4.0 354°93'	1°5'	3.7	18	
10 28	4 44.43	- 6 31.1	49.940	50.670	0.8	21.6	10 28	5 4.99	+19 38.8	1.316	2.157	18.1	19.0
11 7	4 43.85	- 6 34.8	49.869	50.670	0.7	21.6	11 7	5 2.42	+19 28.2	1.243	2.150	14.1	18.7
11 17	4 43.21	- 6 37.8	49.823	50.670	0.6	21.6	11 17	4 56.66	+19 15.7	1.190	2.144	9.3	18.5
11 27	4 42.53	- 6 39.9	49.803	50.670	0.5	21.6	11 27	4 48.51	+19 2.7	1.160	2.140	4.1	18.1
12 7	4 41.83	- 6 41.0	49.809	50.670	0.5	21.6	12 7	4 39.29	+18 51.0	1.155	2.138	2.4	18.0
12 17	4 41.14	- 6 41.1	49.843	50.669	0.6	21.6	12 17	4 30.55	+18 43.1	1.175	2.136	7.6	18.3
12 27	4 40.48	- 6 40.1	49.903	50.669	0.7	21.6	12 27	4 23.77	+18 41.7	1.219	2.137	12.6	18.6
1 6	4 39.88	- 6 38.1	49.986	50.669	0.8	21.7	1 6	4 19.95	+18 48.8	1.285	2.138	16.9	18.9
220079	2002 <i>RB</i> ₂₁₆	12 4.0 148°63'	2°2'	3.5	18		230191	2001 <i>SF</i> ₁₀₃	12 4.0 41°79'	3°0'	4.8	18	

EPHEMERIDES

12 4.0

12 4.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
23351	6818 <i>P-L</i>	12	4.0	107°28	0°0/ 3.9	18	53374	1999 <i>JC₈₄</i>	12	4.0	296°29	4°7/ 3.2	18
10 28	5 13.33	+22 32.7	2.007	2.804	14.4	19.1	10 28	5 9.41	+8 56.8	1.921	2.723	14.7	18.1
11 7	5 7.51	+22 35.2	1.940	2.822	11.1	18.9	11 7	5 4.80	+8 49.4	1.833	2.712	11.8	17.9
11 17	4 59.29	+22 34.3	1.895	2.840	7.2	18.7	11 17	4 57.76	+8 49.5	1.766	2.701	8.4	17.7
11 27	4 49.42	+22 29.6	1.878	2.857	3.0	18.5	11 27	4 48.91	+8 59.8	1.726	2.691	5.5	17.5
12 7	4 38.97	+22 21.4	1.890	2.874	1.3	18.4	12 7	4 39.20	+9 21.7	1.713	2.680	5.0	17.4
12 17	4 29.07	+22 11.4	1.932	2.890	5.4	18.7	12 17	4 29.71	+9 55.7	1.729	2.669	7.7	17.6
12 27	4 20.76	+22 1.9	2.003	2.906	9.2	18.9	12 27	4 21.55	+10 41.3	1.772	2.659	11.2	17.8
1 6	4 14.74	+21 55.5	2.098	2.922	12.5	19.2	1 6	4 15.56	+11 36.6	1.838	2.649	14.5	18.0
73711	1992 <i>EW₂₄</i>	12	4.0	328°13	0°7/ 3.9	18	267838	2003 <i>UR₁₆₀</i>	12	4.0	42°33	0°8/ 3.7	18
10 28	5 8.49	+20 20.0	1.494	2.320	17.1	18.5	10 28	5 7.71	+21 14.6	1.979	2.788	14.1	20.3
11 7	5 4.95	+20 25.6	1.408	2.307	13.3	18.2	11 7	5 3.26	+20 55.1	1.910	2.800	10.8	20.1
11 17	4 58.30	+20 30.1	1.343	2.294	8.8	17.9	11 17	4 56.55	+20 32.2	1.864	2.811	7.1	19.9
11 27	4 49.24	+20 33.3	1.302	2.282	3.8	17.6	11 27	4 48.30	+20 7.2	1.844	2.824	3.0	19.7
12 7	4 38.98	+20 35.8	1.287	2.271	1.8	17.5	12 7	4 39.50	+19 41.6	1.853	2.836	1.6	19.6
12 17	4 29.03	+20 38.6	1.299	2.260	7.1	17.8	12 17	4 31.18	+19 17.8	1.891	2.849	5.6	19.9
12 27	4 20.86	+20 44.1	1.336	2.250	12.0	18.0	12 27	4 24.31	+18 58.5	1.957	2.862	9.3	20.2
1 6	4 15.54	+20 54.4	1.396	2.241	16.3	18.3	1 6	4 19.57	+18 45.7	2.047	2.875	12.5	20.4
178473	1999 <i>RU₁₇₀</i>	12	4.0	76°82	3°6/ 4.9	18	102219	1999 <i>TB₆</i>	12	4.0	86°03	1°2/ 3.8	18
10 28	5 17.78	+30 13.8	1.386	2.192	19.2	19.8	10 28	5 14.15	+19 30.2	1.437	2.255	18.0	19.9
11 7	5 12.12	+30 38.8	1.330	2.212	15.1	19.6	11 7	5 9.07	+19 29.2	1.371	2.265	13.9	19.7
11 17	5 2.83	+30 52.5	1.292	2.232	10.4	19.4	11 17	5 0.78	+19 27.2	1.326	2.275	9.2	19.4
11 27	4 51.01	+30 51.0	1.279	2.251	5.7	19.2	11 27	4 50.18	+19 24.4	1.306	2.285	3.9	19.1
12 7	4 38.33	+30 33.3	1.292	2.271	3.8	19.1	12 7	4 38.70	+19 21.6	1.312	2.295	2.1	19.0
12 17	4 26.62	+30 2.2	1.333	2.290	7.4	19.4	12 17	4 27.88	+19 20.4	1.346	2.305	7.2	19.4
12 27	4 17.44	+29 24.1	1.399	2.310	11.8	19.7	12 27	4 19.15	+19 23.2	1.406	2.315	11.9	19.7
1 6	4 11.71	+28 45.8	1.487	2.329	15.7	20.0	1 6	4 13.44	+19 32.1	1.488	2.324	16.0	20.0
274791	2008 <i>WJ₁₅</i>	12	4.0	202°97	0°3/ 4.1	18	298631	2004 <i>BO₂₇</i>	12	4.0	30°73	0°0/ 3.9	18
10 28	5 7.68	+23 36.5	2.724	3.514	11.2	21.5	10 28	5 10.56	+21 14.2	1.482	2.304	17.4	19.7
11 7	5 2.79	+23 35.2	2.633	3.511	8.6	21.3	11 7	5 6.28	+21 29.1	1.417	2.313	13.4	19.5
11 17	4 56.07	+23 30.3	2.565	3.508	5.7	21.1	11 17	4 58.95	+21 42.2	1.373	2.323	8.8	19.2
11 27	4 48.08	+23 21.9	2.527	3.505	2.4	20.9	11 27	4 49.42	+21 52.8	1.353	2.333	3.7	18.9
12 7	4 39.53	+23 10.2	2.518	3.502	1.0	20.8	12 7	4 39.02	+22 0.6	1.360	2.344	1.6	18.8
12 17	4 31.23	+22 56.6	2.540	3.498	4.3	21.0	12 17	4 29.22	+22 6.7	1.394	2.355	6.7	19.2
12 27	4 23.97	+22 42.8	2.592	3.494	7.5	21.2	12 27	4 21.38	+22 13.1	1.454	2.367	11.3	19.5
1 6	4 18.35	+22 31.0	2.671	3.490	10.2	21.4	1 6	4 16.39	+22 22.3	1.537	2.380	15.2	19.8
173104	2007 <i>UY₁₁₄</i>	12	4.0	10°29	0°7/ 3.8	18	263224	2008 <i>AQ₄₅</i>	12	4.0	244°39	0°9/ 4.2	18
10 28	5 10.17	+23 51.7	1.118	1.959	20.6	19.5	10 28	5 11.27	+24 17.8	1.925	2.726	14.7	21.3
11 7	5 6.88	+23 13.2	1.053	1.960	16.0	19.2	11 7	5 6.37	+24 29.6	1.839	2.723	11.5	21.1
11 17	4 59.76	+22 24.9	1.007	1.961	10.5	18.9	11 17	4 58.84	+24 37.2	1.775	2.720	7.6	20.9
11 27	4 49.83	+21 28.3	0.983	1.964	4.4	18.6	11 27	4 49.37	+24 39.5	1.738	2.717	3.4	20.6
12 7	4 38.80	+20 27.7	0.983	1.967	2.2	18.5	12 7	4 39.03	+24 36.1	1.730	2.713	1.5	20.5
12 17	4 28.58	+19 29.6	1.008	1.970	8.3	18.9	12 17	4 29.02	+24 28.3	1.750	2.710	5.8	20.7
12 27	4 20.90	+18 41.1	1.056	1.975	13.9	19.2	12 27	4 20.55	+24 18.5	1.799	2.706	9.9	21.0
1 6	4 16.75	+18 6.9	1.125	1.980	18.7	19.5	1 6	4 14.49	+24 10.1	1.871	2.702	13.4	21.2
452965	2007 <i>CB₇₂</i>	12	4.0	167°63	0°3/ 4.1	18	473382	2015 <i>UX₇₂</i>	12	4.0	73°31	0°3/ 3.9	18
10 28	5 9.55	+23 42.0	2.610	3.398	11.7	22.5	10 28	5 10.93	+21 17.1	1.890	2.696	14.8	21.2
11 7	5 4.24	+23 40.1	2.524	3.402	9.0	22.3	11 7	5 5.91	+21 23.2	1.820	2.707	11.4	21.0
11 17	4 57.03	+23 34.5	2.462	3.405	5.9	22.1	11 17	4 58.39	+21 27.1	1.771	2.718	7.5	20.8
11 27	4 48.48	+23 24.9	2.429	3.408	2.5	21.9	11 27	4 49.12	+21 28.5	1.749	2.729	3.1	20.5
12 7	4 39.39	+23 11.9	2.426	3.410	1.1	21.7	12 7	4 39.17	+21 27.9	1.756	2.739	1.4	20.4
12 17	4 30.60	+22 56.7	2.454	3.412	4.5	22.0	12 17	4 29.70	+21 26.2	1.792	2.750	5.7	20.7
12 27	4 22.95	+22 41.4	2.512	3.414	7.7	22.2	12 27	4 21.80	+21 25.7	1.855	2.761	9.7	21.0
1 6	4 17.06	+22 28.2	2.596	3.415	10.5	22.4	1 6	4 16.24	+21 28.3	1.943	2.772	13.1	21.2
204988	1995 <i>US₅₈</i>	12	4.0	333°78	0°6/ 4.1	18	90423	2003 <i>YH₁₄₉</i>	12	4.0	181°66	1°5/ 4.3	18
10 28	5 9.06	+22 18.4	1.424	2.251	17.7	20.2	10 28	5 14.29	+24 6.3	2.059	2.851	14.2	19.7
11 7	5 5.63	+22 42.5	1.340	2.239	13.8	19.9	11 7	5 8.59	+24 49.0	1.973	2.852	11.1	19.5
11 17	4 58.89	+23 5.1	1.276	2.227	9.2	19.6	11 17	5 0.28	+25 29.7	1.910	2.852	7.4	19.3
11 27	4 49.54	+23 24.5	1.236	2.216	4.0	19.3	11 27	4 49.99	+26 6.0	1.875	2.852	3.5	19.1
12 7	4 38.89	+23 39.8	1.222	2.206	1.7	19.1	12 7	4 38.78	+26 35.7	1.869	2.851	1.9	19.0
12 17	4 28.53	+23 50.9	1.234	2.197	7.2	19.4	12 17	4 27.84	+26 58.3	1.894	2.851	5.6	19.2
12 27	4 20.09	+24 0.2	1.272	2.188	12.3	19.7	12 27	4 18.37	+27 15.0	1.947	2.850	9.5	19.4
1 6	4 14.71	+24 10.7	1.331	2.181	16.7	19.9	1 6	4 11.26	+27 28.5	2.025	2.849	12.8	19.7
439542	2014 <i>DV₄</i>	12	4.0	266°13	1°0/ 3.7	18	364007	2005 <i>UE₄₈₉</i>	12	4.0	126°06	1°6/ 3.3	18
10 28	5 11.53	+20 44.2	1.685	2.498	16.0	21.6	10 28	5 9.74	+20 23.7	2.278	3.076	12.9	20.5
11 7	5 6.94	+20 30.2	1.594	2.485	12.5	21.3	11 7	5 4.46	+19 35.8	2.202	3.085	9.9	20.3
11 17	4 59.42	+20 12.9	1.524	2.472	8.3	21.1	11 17	4 57.18	+18 43.9	2.150	3.095	6.5	20.1
11 27	4 49.68	+19 52.8	1.480	2.459	3.6	20.7	11 27	4 48.55	+17 50.2	2.127	3.105	2.9	19.9
12 7	4 38.86	+19 31.3	1.463	2.446	2.0	20.6	12 7	4 39.45	+16 57.4	2.133	3.114	2.1	19.9
12 17	4 28.34	+19 11.0	1.475	2.433	6.8	20.9	12 17	4 30.81	+16 8.8	2.170	3.122	5.5	20.1
12 27	4 19.49	+18 55.1	1.513	2.419	11.4	21.1	12 27	4 23.49	+15 27.6	2.236	3.131	8.8	20.3
1 6	4 13.29	+18 46.5	1.574	2.406	15.5	21.3	1 6	4 18.09	+14 55.9	2.328	3.139	11.8	20.5
282368	2003 <i>OA₁₃</i>	12	4.0	142°83	6°2/ 6.8	18	517392	2014 <i>KU₁₀₄</i>	12	4.0	133°64	2°4/	

EPHEMERIDES

12 4.0

12 4.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
277110	2005 <i>GG</i> ₈	12	4.0 317°43	1°9/ 4.0 16			479561	2014 <i>CG</i> ₅	12	4.0 351°28	2°2/ 4.5 18		
10 28	5 14.97	+22 4.4	1.931	2.727	14.9	19.8	10 28	5 9.11	+26 30.9	1.211	2.046	19.7	20.8
11 7	5 9.76	+23 26.2	1.821	2.702	11.8	19.6	11 7	5 6.18	+26 46.9	1.139	2.040	15.5	20.5
11 17	5 1.52	+24 52.8	1.734	2.677	8.0	19.3	11 17	4 59.48	+26 55.0	1.085	2.035	10.5	20.2
11 27	4 50.74	+26 20.4	1.676	2.652	3.8	19.0	11 27	4 49.87	+26 52.5	1.053	2.031	5.0	19.9
12 7	4 38.41	+27 44.1	1.647	2.628	2.4	18.8	12 7	4 38.94	+26 38.9	1.046	2.029	2.6	19.7
12 17	4 25.85	+28 59.5	1.648	2.604	6.5	19.1	12 17	4 28.56	+26 16.3	1.063	2.027	7.8	20.0
12 27	4 14.58	+30 5.1	1.679	2.581	10.8	19.3	12 27	4 20.55	+25 50.1	1.104	2.026	13.2	20.3
1 6	4 5.83	+31 2.0	1.735	2.558	14.7	19.5	1 6	4 16.06	+25 26.2	1.166	2.026	17.8	20.6
109973	2001 <i>SK</i> ₅₃	12	4.0 51°38	1°6/ 4.4 18			401604	2013 <i>GB</i> ₂₆	12	4.0 225°99	0°6/ 3.9 18		
10 28	5 11.41	+25 41.7	1.878	2.680	15.0	19.4	10 28	5 10.87	+19 44.7	2.129	2.928	13.6	21.1
11 7	5 6.51	+26 5.1	1.801	2.684	11.7	19.2	11 7	5 5.79	+19 55.1	2.039	2.923	10.5	20.8
11 17	4 58.94	+26 23.8	1.745	2.688	7.9	19.0	11 17	4 58.35	+20 5.0	1.973	2.918	6.9	20.6
11 27	4 49.43	+26 35.8	1.716	2.693	3.7	18.8	11 27	4 49.19	+20 14.2	1.934	2.913	3.0	20.4
12 7	4 39.07	+26 40.2	1.715	2.698	2.0	18.7	12 7	4 39.24	+20 22.8	1.925	2.908	1.5	20.2
12 17	4 29.14	+26 37.9	1.743	2.703	5.8	18.9	12 17	4 29.54	+20 31.2	1.945	2.903	5.5	20.5
12 27	4 20.84	+26 31.4	1.799	2.707	9.8	19.2	12 27	4 21.16	+20 40.8	1.994	2.897	9.3	20.7
1 6	4 15.00	+26 24.2	1.879	2.712	13.3	19.4	1 6	4 14.88	+20 53.2	2.068	2.891	12.6	20.9
362716	2011 <i>UH</i> ₂₃₇	12	4.0 335°49	2°3/ 4.5 17			251270	2006 <i>WH</i> ₃₂	12	4.0 71°36	2°3/ 3.4 18		
10 28	5 8.35	+26 54.1	1.493	2.314	17.3	21.1	10 28	5 9.70	+16 50.9	1.872	2.681	14.8	20.9
11 7	5 5.05	+27 14.7	1.407	2.301	13.7	20.8	11 7	5 4.90	+16 31.4	1.803	2.692	11.4	20.7
11 17	4 58.48	+27 28.6	1.342	2.289	9.3	20.6	11 17	4 57.71	+16 12.3	1.756	2.702	7.6	20.5
11 27	4 49.39	+27 33.4	1.301	2.277	4.6	20.3	11 27	4 48.87	+15 55.1	1.736	2.713	3.7	20.3
12 7	4 39.06	+27 28.0	1.285	2.267	2.6	20.1	12 7	4 39.41	+15 41.7	1.744	2.723	2.8	20.3
12 17	4 29.06	+27 13.5	1.296	2.257	7.0	20.4	12 17	4 30.43	+15 33.9	1.781	2.734	6.4	20.5
12 27	4 20.96	+26 54.0	1.332	2.249	11.8	20.6	12 27	4 22.98	+15 33.4	1.845	2.744	10.1	20.8
1 6	4 15.88	+26 34.3	1.390	2.241	16.1	20.8	1 6	4 17.77	+15 41.0	1.933	2.755	13.4	21.0
198792	2005 <i>EW</i> ₁₃₆	12	4.0 295°09	2°4/ 3.2 18			230688	2003 <i>TH</i> ₅₆	12	4.0 126°36	2°1/ 3.5 18		
10 28	5 6.08	+15 54.0	2.329	3.133	12.4	20.1	10 28	5 11.92	+16 35.6	1.930	2.733	14.6	21.1
11 7	5 1.84	+15 30.0	2.236	3.122	9.7	19.9	11 7	5 6.57	+16 26.6	1.856	2.742	11.3	20.9
11 17	4 55.63	+15 6.3	2.167	3.111	6.5	19.6	11 17	4 58.80	+16 18.5	1.806	2.750	7.5	20.7
11 27	4 47.98	+14 44.4	2.125	3.100	3.4	19.4	11 27	4 49.34	+16 12.5	1.782	2.759	3.6	20.5
12 7	4 39.69	+14 26.5	2.112	3.089	2.8	19.4	12 7	4 39.20	+16 9.6	1.787	2.767	2.6	20.5
12 17	4 31.62	+14 14.2	2.129	3.078	5.8	19.5	12 17	4 29.52	+16 11.3	1.821	2.775	6.2	20.7
12 27	4 24.65	+14 9.3	2.174	3.068	9.1	19.7	12 27	4 21.35	+16 18.8	1.884	2.782	10.0	20.9
1 6	4 19.46	+14 12.6	2.243	3.057	12.1	19.9	1 6	4 15.44	+16 32.9	1.970	2.789	13.3	21.2
353148	2009 <i>HU</i> ₂₈	12	4.0 262°63	1°7/ 4.3 16			307896	2004 <i>CQ</i> ₃₁	12	4.1 210°77	2°4/ 3.4 18		
10 28	5 14.09	+24 53.1	2.070	2.861	14.2	21.5	10 28	5 9.72	+16 26.2	1.926	2.734	14.5	21.4
11 7	5 8.70	+25 33.1	1.965	2.842	11.2	21.2	11 7	5 4.99	+16 7.1	1.845	2.733	11.3	21.2
11 17	5 0.55	+26 11.1	1.883	2.823	7.6	21.0	11 17	4 57.85	+15 48.5	1.786	2.732	7.5	21.0
11 27	4 50.22	+26 44.6	1.828	2.804	3.6	20.7	11 27	4 48.98	+15 32.0	1.754	2.731	3.7	20.8
12 7	4 38.70	+27 11.4	1.802	2.784	2.1	20.5	12 7	4 39.37	+15 19.5	1.751	2.729	2.9	20.7
12 17	4 27.23	+27 30.5	1.807	2.764	5.9	20.8	12 17	4 30.12	+15 12.7	1.776	2.728	6.5	20.9
12 27	4 17.11	+27 43.3	1.841	2.744	9.9	21.0	12 27	4 22.31	+15 13.3	1.829	2.727	10.3	21.1
1 6	4 9.37	+27 52.6	1.899	2.723	13.6	21.1	1 6	4 16.71	+15 22.4	1.905	2.726	13.7	21.4
125154	2001 <i>UK</i> ₈₄	12	4.0 120°36	3°6/ 5.0 18			265191	2004 <i>BU</i> ₃₅	12	4.1 326°42	4°4/ 3.2 18		
10 28	5 15.45	+31 11.7	1.699	2.492	16.7	19.5	10 28	5 9.76	+13 50.9	1.293	2.125	18.8	20.2
11 7	5 10.02	+31 35.0	1.624	2.499	13.3	19.3	11 7	5 6.20	+13 27.1	1.216	2.116	14.9	19.9
11 17	5 1.41	+31 47.9	1.571	2.506	9.3	19.1	11 17	4 59.27	+13 7.0	1.159	2.108	10.2	19.6
11 27	4 50.51	+31 47.1	1.543	2.512	5.3	18.9	11 27	4 49.75	+12 54.1	1.125	2.100	5.7	19.3
12 7	4 38.67	+31 31.1	1.542	2.519	3.8	18.8	12 7	4 39.02	+12 51.5	1.116	2.093	4.9	19.3
12 17	4 27.43	+31 1.9	1.570	2.525	6.8	19.0	12 17	4 28.69	+13 1.2	1.132	2.086	9.1	19.5
12 27	4 18.22	+30 24.5	1.624	2.531	10.8	19.2	12 27	4 20.38	+13 24.4	1.173	2.079	14.0	19.7
1 6	4 11.97	+29 45.2	1.702	2.537	14.4	19.5	1 6	4 15.18	+14 0.4	1.234	2.074	18.4	20.0
185897	2000 <i>RS</i> ₁₆	12	4.0 103°63	5°6/ 1.9 18			33326	1998 <i>RJ</i> ₄	12	4.1 114°67	17°3/ 28.4 18		
10 28	5 8.50	+ 8 5.0	2.179	2.974	13.5	20.6	10 28	5 13.50	- 7 56.4	1.201	1.989	22.6	19.3
11 7	5 3.49	+ 6 59.6	2.116	2.988	10.7	20.5	11 7	5 8.74	-10 48.3	1.161	1.997	20.1	19.1
11 17	4 56.53	+ 5 59.3	2.077	3.003	7.9	20.3	11 17	5 0.62	-13 15.5	1.140	2.006	18.2	19.0
11 27	4 48.30	+ 5 8.4	2.064	3.017	5.9	20.2	11 27	4 50.17	-15 2.6	1.138	2.014	17.3	19.0
12 7	4 39.64	+ 4 30.5	2.081	3.031	5.9	20.3	12 7	4 38.92	-15 59.7	1.157	2.021	17.8	19.1
12 17	4 31.42	+ 4 8.0	2.126	3.045	7.9	20.4	12 17	4 28.47	-16 4.0	1.195	2.029	19.3	19.2
12 27	4 24.48	+ 4 1.9	2.198	3.059	10.5	20.6	12 27	4 20.28	-15 20.1	1.251	2.036	21.4	19.4
1 6	4 19.39	+ 4 10.9	2.293	3.072	13.0	20.8	1 6	4 15.23	-13 58.2	1.321	2.043	23.5	19.6
158743	2003 <i>QH</i> ₄₃	12	4.0 10°41	5°9/ 1.8 18			425584	2010 <i>TH</i> ₁₁₆	12	4.1 91°21	0°7/ 3.9 16		
10 28	5 5.58	+ 9 20.5	1.906	2.717	14.5	19.5	10 28	5 17.54	+21 41.8	1.401	2.214	18.6	22.1
11 7	5 1.67	+ 8 10.3	1.835	2.718	11.6	19.3	11 7	5 11.56	+21 29.1	1.346	2.237	14.4	21.9
11 17	4 55.57	+ 7 4.1	1.787	2.720	8.5	19.1	11 17	5 2.30	+21 12.3	1.311	2.259	9.4	21.7
11 27	4 47.96	+ 6 6.9	1.765	2.723	6.2	19.0	11 27	4 50.83	+20 51.7	1.301	2.280	3.9	21.4
12 7	4 39.77	+ 5 23.2	1.770	2.725	6.3	19.0	12 7	4 38.67	+20 28.8	1.318	2.302	1.9	21.3
12 17	4 31.97	+ 4 56.4	1.802	2.729	8.6	19.1	12 17	4 27.44	+20 6.8	1.363	2.322	7.1	21.7
12 27	4 25.53	+ 4 47.9	1.861	2.732	11.6	19.3	12 27	4 18.53	+19 49.3	1.434	2.342	11.8	22.1
1 6	4 21.10	+ 4 56.6	1.941	2.736	14.4	19.5	1 6	4 12.75	+19 39.4	1.528	2.362	15.8	22.3
83682	2001 <i>TG</i> ₅₀	12	4.0 128°93	7°9/ 5.9 18			369465	2010 <i>RT</i> ₁₂₅	12	4.1 20°29	3		

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
85760	1998 SG ₁₇₀	12	4.1	149°82	3°1/ 2.9	18	298202	2002 TZ ₂₉₂	12	4.1	16°66	0°7/ 4.3	18
10 28	5 13.11	+17 23.4	1.786	2.591	15.5	20.0	10 28	5 7.49	+27 14.6	1.308	2.139	18.7	18.8
11 7	5 7.61	+16 26.5	1.712	2.598	12.0	19.8	11 7	5 4.29	+26 33.9	1.246	2.146	14.6	18.6
11 17	4 59.52	+15 27.0	1.661	2.605	8.1	19.5	11 17	4 57.79	+25 40.8	1.204	2.155	9.6	18.3
11 27	4 49.66	+14 28.2	1.636	2.611	4.2	19.3	11 27	4 49.02	+24 36.5	1.185	2.165	4.2	18.0
12 7	4 39.13	+13 34.2	1.641	2.617	3.7	19.3	12 7	4 39.46	+23 25.0	1.192	2.176	1.7	17.9
12 17	4 29.17	+12 49.2	1.674	2.622	7.3	19.5	12 17	4 30.71	+22 12.8	1.225	2.188	7.0	18.3
12 27	4 20.88	+12 16.5	1.735	2.627	11.2	19.8	12 27	4 24.16	+21 7.1	1.283	2.202	12.0	18.6
1 6	4 15.02	+11 57.7	1.820	2.631	14.6	20.0	1 6	4 20.64	+20 13.3	1.363	2.216	16.2	18.9
330354	2006 VY ₅₇	12	4.1	48°16	2°5/ 3.4	18	237019	2008 SP ₂₅	12	4.1	23°95	2°0/ 4.5	18
10 28	5 12.21	+19 26.5	1.196	2.031	19.9	20.5	10 28	5 10.21	+26 18.4	1.185	2.020	20.1	20.1
11 7	5 7.87	+18 45.2	1.144	2.047	15.3	20.3	11 7	5 6.80	+26 34.2	1.128	2.029	15.7	19.9
11 17	5 0.08	+18 0.9	1.112	2.064	10.1	20.1	11 17	4 59.69	+26 41.7	1.090	2.040	10.5	19.6
11 27	4 49.93	+17 16.7	1.103	2.082	4.6	19.8	11 27	4 49.89	+26 39.0	1.074	2.052	4.9	19.3
12 7	4 39.05	+16 36.6	1.119	2.100	3.3	19.8	12 7	4 39.09	+26 25.7	1.082	2.065	2.5	19.2
12 17	4 29.11	+16 4.9	1.160	2.118	8.3	20.1	12 17	4 29.12	+26 4.6	1.116	2.079	7.6	19.6
12 27	4 21.57	+15 45.5	1.226	2.137	13.2	20.5	12 27	4 21.64	+25 40.9	1.173	2.094	12.6	19.9
1 6	4 17.25	+15 39.7	1.313	2.156	17.3	20.8	1 6	4 17.59	+25 20.1	1.252	2.110	17.0	20.2
408732	2014 OT ₅₆	12	4.1	347°43	0°4/ 4.1	18	211997	2005 AV ₇₆	12	4.1	295°35	2°5/ 4.6	15
10 28	5 9.30	+23 12.9	1.866	2.675	14.8	20.9	10 28	5 11.54	+27 57.5	1.692	2.497	16.3	21.1
11 7	5 4.92	+23 18.8	1.784	2.672	11.5	20.7	11 7	5 7.34	+28 17.0	1.593	2.477	12.9	20.8
11 17	4 57.94	+23 21.1	1.723	2.670	7.6	20.5	11 17	4 59.98	+28 29.6	1.515	2.457	8.9	20.6
11 27	4 49.06	+23 19.1	1.689	2.668	3.3	20.2	11 27	4 50.11	+28 32.5	1.461	2.437	4.6	20.3
12 7	4 39.35	+23 13.0	1.683	2.667	1.4	20.0	12 7	4 38.92	+28 24.1	1.435	2.416	2.8	20.1
12 17	4 30.01	+23 4.2	1.705	2.665	5.8	20.3	12 17	4 27.90	+28 5.3	1.437	2.396	6.8	20.3
12 27	4 22.19	+22 55.2	1.755	2.664	9.9	20.6	12 27	4 18.61	+27 40.0	1.465	2.376	11.4	20.5
1 6	4 16.75	+22 49.0	1.829	2.664	13.5	20.8	1 6	4 12.16	+27 13.5	1.516	2.357	15.5	20.7
134914	2000 YC ₅₁	12	4.1	230°31	3°4/ 3.2	18	220812	2004 TQ ₂₅₀	12	4.1	15°52	6°4/ 5.9	17
10 28	5 10.87	+13 15.3	2.013	2.814	14.2	19.9	10 28	5 10.51	+37 10.9	1.632	2.423	17.4	19.7
11 7	5 5.83	+12 57.3	1.924	2.806	11.1	19.7	11 7	5 6.61	+37 54.2	1.564	2.429	14.3	19.5
11 17	4 58.42	+12 42.1	1.857	2.797	7.7	19.4	11 17	4 59.39	+38 22.7	1.515	2.436	10.8	19.3
11 27	4 49.26	+12 31.9	1.817	2.789	4.4	19.2	11 27	4 49.75	+38 31.6	1.490	2.444	7.6	19.2
12 7	4 39.28	+12 28.6	1.806	2.780	3.8	19.2	12 7	4 39.13	+38 18.4	1.491	2.452	6.4	19.1
12 17	4 29.57	+12 33.5	1.824	2.770	6.9	19.3	12 17	4 29.14	+37 44.6	1.517	2.462	8.1	19.2
12 27	4 21.18	+12 47.6	1.869	2.760	10.5	19.5	12 27	4 21.27	+36 56.1	1.569	2.473	11.3	19.4
1 6	4 14.94	+13 11.1	1.939	2.750	13.8	19.7	1 6	4 16.48	+36 0.7	1.644	2.484	14.5	19.7
306851	2001 SC ₁₂₀	12	4.1	118°31	1°8/ 3.5	18	417408	2006 JT ₃₁	12	4.1	239°22	1°5/ 3.5	18
10 28	5 14.48	+19 12.3	1.844	2.645	15.3	21.2	10 28	5 7.24	+17 34.9	2.550	3.346	11.7	21.6
11 7	5 8.51	+18 42.0	1.779	2.663	11.8	21.0	11 7	5 2.58	+17 24.4	2.457	3.340	9.0	21.4
11 17	5 0.02	+18 9.3	1.736	2.681	7.7	20.8	11 17	4 56.06	+17 13.8	2.389	3.333	6.0	21.2
11 27	4 49.84	+17 36.0	1.720	2.698	3.5	20.6	11 27	4 48.21	+17 3.8	2.349	3.327	2.8	21.0
12 7	4 39.10	+17 4.3	1.733	2.714	2.4	20.5	12 7	4 39.77	+16 55.6	2.339	3.320	2.0	20.9
12 17	4 28.99	+16 37.0	1.776	2.729	6.3	20.8	12 17	4 31.55	+16 50.5	2.360	3.313	5.0	21.1
12 27	4 20.59	+16 16.9	1.847	2.744	10.2	21.1	12 27	4 24.37	+16 49.8	2.409	3.306	8.2	21.3
1 6	4 14.62	+16 5.9	1.942	2.759	13.6	21.3	1 6	4 18.85	+16 54.4	2.484	3.298	11.0	21.5
454074	2012 UB ₁₃₅	12	4.1	58°45	5°6/ 1.5	17	484513	2008 ET ₃₈	12	4.1	311°36	1°2/ 3.8	17
10 28	5 16.80	+22 32.7	0.975	1.817	22.9	19.9	10 28	5 8.88	+19 27.7	1.780	2.595	15.2	22.1
11 7	5 12.02	+19 45.2	0.917	1.824	17.7	19.6	11 7	5 4.76	+19 24.1	1.691	2.583	11.9	21.8
11 17	5 3.04	+16 38.1	0.878	1.832	11.8	19.3	11 17	4 57.97	+19 19.4	1.623	2.571	7.9	21.6
11 27	4 51.21	+13 23.8	0.863	1.840	6.5	19.1	11 27	4 49.15	+19 14.2	1.581	2.560	3.4	21.3
12 7	4 38.58	+10 20.4	0.874	1.848	6.8	19.2	12 7	4 39.37	+19 9.3	1.566	2.549	1.9	21.1
12 17	4 27.24	+7 45.6	0.911	1.856	12.1	19.5	12 17	4 29.85	+19 6.2	1.580	2.538	6.4	21.4
12 27	4 18.90	+5 50.8	0.971	1.865	17.5	19.8	12 27	4 21.84	+19 7.1	1.620	2.528	10.7	21.6
1 6	4 14.41	+4 37.4	1.048	1.874	22.0	20.1	1 6	4 16.25	+19 13.8	1.684	2.517	14.6	21.9
156866	2003 DB ₁₅	12	4.1	350°99	1°8/ 4.4	18	122077	2000 HO ₂₈	12	4.1	149°16	0°7/ 3.9	15
10 28	5 8.38	+24 56.4	1.170	2.010	19.9	19.2	10 28	5 16.44	+22 7.8	1.580	2.387	17.2	21.1
11 7	5 5.75	+25 22.0	1.098	2.003	15.7	18.9	11 7	5 10.66	+21 48.5	1.508	2.395	13.3	20.9
11 17	4 59.30	+25 42.6	1.045	1.997	10.6	18.6	11 17	5 1.79	+21 24.1	1.456	2.403	8.8	20.6
11 27	4 49.87	+25 55.3	1.013	1.992	4.9	18.2	11 27	4 50.71	+20 55.2	1.430	2.410	3.7	20.3
12 7	4 39.02	+25 58.8	1.005	1.988	2.5	18.1	12 7	4 38.78	+20 23.4	1.432	2.416	1.8	20.2
12 17	4 28.68	+25 54.1	1.022	1.986	7.9	18.4	12 17	4 27.50	+19 52.1	1.463	2.422	6.8	20.6
12 27	4 20.72	+25 45.4	1.062	1.985	13.4	18.7	12 27	4 18.23	+19 25.3	1.521	2.426	11.5	20.8
1 6	4 16.33	+25 37.6	1.122	1.985	18.2	19.0	1 6	4 11.86	+19 6.6	1.602	2.431	15.4	21.1
130160	1999 XP ₂₃₅	12	4.1	268°75	0°2/ 4.1	18	450373	2005 GL ₆₀	12	4.1	207°28	3°3/ 4.8	18
10 28	5 8.63	+24 36.0	2.421	3.214	12.3	20.9	10 28	5 15.31	+30 47.2	2.367	3.139	13.2	21.7
11 7	5 3.90	+24 15.0	2.316	3.196	9.6	20.7	11 7	5 9.30	+31 29.9	2.272	3.134	10.5	21.5
11 17	4 57.06	+23 48.1	2.234	3.178	6.4	20.4	11 17	5 0.76	+32 6.5	2.200	3.128	7.5	21.3
11 27	4 48.67	+23 15.5	2.180	3.159	2.7	20.2	11 27	4 50.31	+32 33.5	2.155	3.121	4.5	21.1
12 7	4 39.55	+22 38.3	2.156	3.140	1.1	20.0	12 7	4 38.91	+32 48.7	2.141	3.114	3.4	21.1
12 17	4 30.64	+21 58.9	2.162	3.121	4.9	20.3	12 17	4 27.71	+32 51.7	2.157	3.106	5.7	21.2
12 27	4 22.89	+21 20.5	2.198	3.101	8.5	20.5	12 27	4 17.86	+32 44.9	2.202	3.098	8.9	21.4
1 6	4 17.01	+20 46.3	2.259	3.082	11.7	20.6	1 6	4 10.25	+32 32.2	2.273	3.089	11.9	21.6
337854	2001 VZ ₁₁₀	12	4.1	49°83	3°3/ 4.6	18	116650	2004 CL ₂₁	12	4.1	157°10	0°2/ 4.0	18
10 28	5 16.41	+27 35.9	1.280										

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
180272	2003 <i>WD</i> ₅₈	12 4.1 25°76'	1°8'	4.3	18		443106	2013 <i>YA</i> ₂₀	12 4.1 331°78'	0°5'	3.9	18	
10 28	5 13.15	+24 29.6	1.197	2.028	20.1	20.0	10 28	5 8.81	+23 8.4	1.279	2.113	18.9	20.8
11 7	5 9.21	+25 1.3	1.133	2.033	15.7	19.8	11 7	5 5.72	+22 44.1	1.199	2.102	14.8	20.5
11 17	5 1.41	+25 28.5	1.088	2.038	10.5	19.5	11 17	4 59.11	+22 12.1	1.139	2.092	9.8	20.2
11 27	4 50.71	+25 48.2	1.066	2.044	4.8	19.2	11 27	4 49.80	+21 33.2	1.102	2.083	4.2	19.9
12 7	4 38.78	+25 58.4	1.068	2.051	2.4	19.1	12 7	4 39.25	+20 50.1	1.090	2.074	1.9	19.7
12 17	4 27.54	+25 59.9	1.096	2.059	7.8	19.4	12 17	4 29.17	+20 7.4	1.104	2.066	7.8	20.0
12 27	4 18.80	+25 56.7	1.148	2.066	13.1	19.7	12 27	4 21.24	+19 30.8	1.141	2.059	13.2	20.3
1 6	4 13.67	+25 53.5	1.221	2.075	17.6	20.0	1 6	4 16.56	+19 4.7	1.200	2.053	17.9	20.6
45352	2000 <i>AC</i> ₉₇	12 4.1 8°88'	8°5'	2.9	18		331671	2002 <i>PO</i> ₁₈₁	12 4.1 187°55'	0°9'	4.5	17	
10 28	5 7.05	+4 1.5	1.337	2.160	18.9	16.8	10 28	5 8.68	+27 20.9	2.423	3.212	12.4	21.2
11 7	5 3.69	+3 24.3	1.276	2.161	15.4	16.6	11 7	5 3.83	+26 58.4	2.335	3.212	9.7	21.0
11 17	4 57.35	+3 1.4	1.235	2.164	11.8	16.4	11 17	4 56.94	+26 28.5	2.271	3.212	6.5	20.8
11 27	4 48.88	+2 58.6	1.215	2.168	9.1	16.2	11 27	4 48.64	+25 51.2	2.235	3.212	3.0	20.6
12 7	4 39.55	+3 19.7	1.220	2.173	8.8	16.2	12 7	4 39.78	+25 7.8	2.228	3.211	1.3	20.5
12 17	4 30.76	+4 4.9	1.249	2.179	11.2	16.4	12 17	4 31.29	+24 20.8	2.252	3.211	4.7	20.7
12 27	4 23.83	+5 11.4	1.302	2.187	14.6	16.6	12 27	4 24.05	+23 33.9	2.305	3.211	8.1	20.9
1 6	4 19.65	+6 34.0	1.375	2.195	17.9	16.8	1 6	4 18.71	+22 50.5	2.385	3.210	11.1	21.1
372856	2010 <i>VK</i> ₁₆₂	12 4.1 331°64'	3°4'	4.7	18		217570	2007 <i>TQ</i> ₄₁₂	12 4.1 62°81'	7°5'	6.7	18	
10 28	5 11.91	+28 0.6	1.213	2.042	20.1	20.8	10 28	5 16.90	+40 50.4	1.702	2.469	17.7	20.2
11 7	5 8.61	+28 33.4	1.136	2.033	16.0	20.5	11 7	5 11.57	+41 34.2	1.635	2.480	14.8	20.1
11 17	5 1.29	+28 58.2	1.078	2.025	11.0	20.2	11 17	5 2.67	+42 0.7	1.587	2.491	11.6	19.9
11 27	4 50.79	+29 10.9	1.042	2.017	5.8	19.9	11 27	4 51.20	+42 3.6	1.562	2.502	8.7	19.8
12 7	4 38.73	+29 8.6	1.030	2.011	3.7	19.7	12 7	4 38.74	+41 40.2	1.563	2.513	7.5	19.7
12 17	4 27.13	+28 52.3	1.043	2.004	8.3	20.0	12 17	4 27.06	+40 52.3	1.590	2.525	8.8	19.8
12 27	4 17.99	+28 27.6	1.079	1.999	13.6	20.3	12 27	4 17.76	+39 47.0	1.644	2.536	11.6	20.0
1 6	4 12.62	+28 1.4	1.136	1.994	18.4	20.5	1 6	4 11.80	+38 33.6	1.720	2.548	14.6	20.2
487909	2015 <i>TM</i> ₁₈₃	12 4.1 144°79'	2°3'	4.7	18		261275	2005 <i>UY</i> ₁₃₀	12 4.1 63°80'	2°2'	4.6	18	
10 28	5 12.51	+28 6.2	2.009	2.801	14.5	21.3	10 28	5 11.88	+27 13.8	2.050	2.843	14.2	20.8
11 7	5 7.32	+28 27.9	1.928	2.804	11.4	21.1	11 7	5 6.80	+27 47.9	1.970	2.847	11.2	20.6
11 17	4 59.51	+28 43.1	1.868	2.807	7.8	20.9	11 17	4 59.17	+28 16.9	1.912	2.851	7.6	20.4
11 27	4 49.79	+28 49.6	1.835	2.809	4.0	20.6	11 27	4 49.67	+28 38.5	1.881	2.855	3.9	20.2
12 7	4 39.24	+28 46.4	1.831	2.811	2.5	20.5	12 7	4 39.34	+28 51.1	1.878	2.858	2.5	20.1
12 17	4 29.09	+28 34.5	1.856	2.814	5.7	20.7	12 17	4 29.36	+28 55.0	1.905	2.862	5.6	20.3
12 27	4 20.50	+28 17.0	1.909	2.816	9.5	21.0	12 27	4 20.87	+28 52.5	1.960	2.866	9.3	20.6
1 6	4 14.32	+27 57.9	1.987	2.817	12.8	21.2	1 6	4 14.72	+28 47.0	2.040	2.870	12.5	20.8
264312	1999 <i>RY</i> ₁₆₈	12 4.1 40°25'	4°2'	5.1	18		225686	2001 <i>QE</i> ₆₀	12 4.1 156°00'	1°8'	4.6	18	
10 28	5 15.23	+30 36.7	1.035	1.867	22.5	19.8	10 28	5 16.45	+27 39.0	2.063	2.847	14.5	21.7
11 7	5 11.03	+31 2.0	0.993	1.890	17.7	19.6	11 7	5 10.16	+27 47.5	1.983	2.856	11.3	21.5
11 17	5 2.53	+31 12.9	0.968	1.914	12.2	19.4	11 17	5 1.26	+27 49.0	1.926	2.864	7.7	21.3
11 27	4 51.09	+31 5.0	0.965	1.938	6.7	19.2	11 27	4 50.51	+27 41.5	1.897	2.872	3.8	21.0
12 7	4 38.79	+30 38.0	0.984	1.964	4.4	19.1	12 7	4 39.02	+27 24.9	1.897	2.878	2.1	20.9
12 17	4 27.82	+29 56.6	1.029	1.990	8.4	19.4	12 17	4 28.02	+27 0.9	1.927	2.884	5.6	21.2
12 27	4 19.93	+29 9.2	1.096	2.017	13.3	19.8	12 27	4 18.66	+26 33.0	1.986	2.889	9.3	21.4
1 6	4 15.98	+28 24.1	1.184	2.044	17.6	20.1	1 6	4 11.75	+26 5.6	2.071	2.894	12.6	21.6
30270	<i>Chemparathy</i>	12 4.1 127°83'	0°3'	4.0	18		188427	2004 <i>FX</i> ₈₅	12 4.1 352°30'	0°5'	4.1	18	
10 28	5 14.87	+21 39.0	1.869	2.667	15.2	19.5	10 28	5 11.09	+21 21.2	1.192	2.029	19.9	19.8
11 7	5 9.00	+21 40.1	1.797	2.680	11.8	19.3	11 7	5 7.75	+21 54.5	1.121	2.024	15.5	19.5
11 17	5 0.50	+21 38.3	1.748	2.693	7.7	19.1	11 17	5 0.62	+22 28.1	1.068	2.020	10.3	19.2
11 27	4 50.16	+21 33.3	1.726	2.706	3.2	18.9	11 27	4 50.51	+22 59.6	1.037	2.017	4.5	18.9
12 7	4 39.13	+21 25.5	1.734	2.717	1.4	18.8	12 7	4 38.97	+23 27.0	1.031	2.015	1.9	18.7
12 17	4 28.63	+21 16.6	1.770	2.728	5.9	19.1	12 17	4 27.90	+23 49.7	1.051	2.014	7.9	19.1
12 27	4 19.83	+21 8.9	1.835	2.739	9.9	19.3	12 27	4 19.17	+24 9.6	1.094	2.014	13.4	19.4
1 6	4 13.50	+21 5.1	1.925	2.749	13.4	19.6	1 6	4 13.98	+24 29.7	1.158	2.015	18.2	19.7
460730	2014 <i>VC</i> ₁₃	12 4.1 348°25'	5°2'	3.8	17		150732	2001 <i>QG</i> ₄₆	12 4.1 54°42'	1°3'	3.8	18	
10 28	5 18.21	+28 14.6	1.790	2.579	16.2	20.1	10 28	5 13.58	+20 39.2	1.299	2.126	19.1	20.0
11 7	5 12.72	+30 20.1	1.700	2.571	13.0	19.9	11 7	5 8.73	+20 20.2	1.248	2.147	14.7	19.8
11 17	5 3.76	+32 27.0	1.633	2.563	9.4	19.6	11 17	5 0.59	+19 58.1	1.217	2.168	9.6	19.5
11 27	4 51.90	+34 27.3	1.594	2.557	6.1	19.4	11 27	4 50.23	+19 34.1	1.210	2.190	4.1	19.3
12 7	4 38.28	+36 12.6	1.584	2.551	5.4	19.4	12 7	4 39.19	+19 10.4	1.229	2.212	2.2	19.2
12 17	4 24.54	+37 36.8	1.604	2.546	8.1	19.5	12 17	4 29.07	+18 50.2	1.275	2.234	7.4	19.6
12 27	4 12.44	+38 39.5	1.653	2.542	11.7	19.7	12 27	4 21.25	+18 36.7	1.345	2.257	12.1	19.9
1 6	4 3.36	+39 24.3	1.725	2.539	15.1	19.9	1 6	4 16.54	+18 32.3	1.438	2.279	16.1	20.3
500	<i>Selinur</i>	12 4.1 51°56'	4°0'	5.6	18		100867	1998 <i>HC</i> ₆₁	12 4.1 172°03'	1°3'	4.4	18	
10 28	5 13.73	+33 54.2	1.581	2.376	17.7	13.1	10 28	5 16.61	+25 59.0	1.946	2.735	15.0	21.2
11 7	5 8.79	+33 49.6	1.515	2.390	14.1	12.9	11 7	5 10.48	+26 7.7	1.863	2.739	11.8	21.0
11 17	5 0.62	+33 29.9	1.470	2.403	10.0	12.7	11 17	5 1.59	+26 10.5	1.802	2.742	7.9	20.7
11 27	4 50.24	+32 52.6	1.449	2.417	5.9	12.5	11 27	4 50.69	+26 5.6	1.768	2.745	3.6	20.5
12 7	4 39.13	+31 58.3	1.455	2.432	4.0	12.4	12 7	4 38.94	+25 52.8	1.764	2.747	1.8	20.3
12 17	4 28.86	+30 51.6	1.489	2.446	6.9	12.6	12 17	4 27.64	+25 33.5	1.790	2.748	5.8	20.6
12 27	4 20.80	+29 39.6	1.549	2.461	10.8	12.9	12 27	4 18.03	+25 11.4	1.844	2.748	9.9	20.9
1 6	4 15.76	+28 30.1	1.633	2.476	14.5	13.1	1 6	4 10.97	+24 50.3	1.923	2.748	13.4	21.1
286868	2002 <i>OQ</i> ₁₂	12 4.1 59°19'	4°0'	3.0	18		487438	2014 <i>RO</i> ₃₅	12 4.1 22°16'	2°4'	4.6	17	
10 28	5 14.4												

EPHEMERIDES

12 4.1

12 4.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
67427	2000 <i>QU</i> ₁₀₀	12	4.1 160°32	2.4/ 3.5	17		495774	2017 <i>EP</i> ₁₅	12	4.1 197°66	4.4/ 2.6	18	
10 28	5 15.56	+17 3.1	1.658	2.463	16.5	19.8	10 28	5 7.07	+5 43.7	2.971	3.747	10.7	21.8
11 7	5 9.86	+16 47.6	1.583	2.469	12.9	19.6	11 7	5 2.12	+5 23.3	2.884	3.744	8.6	21.7
11 17	5 1.27	+16 32.3	1.529	2.474	8.6	19.4	11 17	4 55.64	+5 8.9	2.822	3.741	6.4	21.5
11 27	4 50.58	+16 18.6	1.502	2.479	4.1	19.1	11 27	4 48.10	+5 2.6	2.788	3.737	4.8	21.4
12 7	4 39.02	+16 8.2	1.503	2.483	3.0	19.1	12 7	4 40.09	+5 6.2	2.783	3.733	4.6	21.4
12 17	4 27.99	+16 3.0	1.532	2.486	7.1	19.3	12 17	4 32.29	+5 20.3	2.809	3.728	6.2	21.5
12 27	4 18.77	+16 4.9	1.589	2.489	11.5	19.6	12 27	4 25.33	+5 44.9	2.863	3.723	8.4	21.6
1 6	4 12.25	+16 15.3	1.669	2.491	15.2	19.8	1 6	4 19.74	+6 19.2	2.943	3.718	10.5	21.8
252802	2002 <i>FS</i> ₂₁	12	4.1 236°93	1.7/ 3.6	18		376756	1999 <i>VM</i> ₁₀₃	12	4.1 29°92	0°3/ 4.2	18	
10 28	5 13.48	+20 1.8	1.541	2.355	17.2	21.2	10 28	5 10.76	+23 42.1	1.020	1.866	21.7	20.2
11 7	5 8.69	+19 34.3	1.456	2.348	13.4	20.9	11 7	5 7.52	+23 37.6	0.972	1.881	16.8	19.9
11 17	5 0.75	+19 2.8	1.392	2.340	8.9	20.7	11 17	5 0.28	+23 26.3	0.941	1.896	11.0	19.6
11 27	4 50.45	+18 28.8	1.354	2.332	4.0	20.4	11 27	4 50.25	+23 8.0	0.932	1.913	4.7	19.4
12 7	4 39.05	+17 54.9	1.342	2.324	2.5	20.2	12 7	4 39.28	+22 44.4	0.947	1.931	1.9	19.2
12 17	4 28.07	+17 24.4	1.358	2.315	7.4	20.5	12 17	4 29.36	+22 19.4	0.985	1.950	8.0	19.7
12 27	4 18.97	+17 1.5	1.401	2.307	12.2	20.8	12 27	4 22.19	+21 58.1	1.047	1.970	13.5	20.1
1 6	4 12.74	+16 49.0	1.466	2.297	16.5	21.0	1 6	4 18.66	+21 44.7	1.128	1.991	18.1	20.4
51228	2000 <i>JQ</i> ₂₆	12	4.1 241°99	2°1/ 4.7	18		490973	2011 <i>EH</i> ₃₁	12	4.1 161°26	4°7/ 3.0	17	
10 28	5 14.16	+28 17.7	1.787	2.583	15.9	18.5	10 28	5 8.51	+5 4.3	2.672	3.449	11.7	21.1
11 7	5 9.06	+28 20.5	1.693	2.573	12.6	18.2	11 7	5 3.36	+4 57.0	2.592	3.452	9.4	21.0
11 17	5 0.94	+28 14.6	1.622	2.562	8.6	18.0	11 17	4 56.51	+4 57.3	2.535	3.455	7.0	20.8
11 27	4 50.52	+27 58.0	1.576	2.551	4.3	17.7	11 27	4 48.49	+5 7.4	2.506	3.457	5.1	20.7
12 7	4 39.02	+27 30.3	1.558	2.539	2.4	17.5	12 7	4 39.97	+5 28.4	2.507	3.459	4.9	20.7
12 17	4 27.86	+26 53.6	1.568	2.527	6.4	17.8	12 17	4 31.69	+6 0.6	2.537	3.461	6.6	20.8
12 27	4 18.46	+26 12.8	1.607	2.515	10.7	18.0	12 27	4 24.40	+6 43.2	2.597	3.463	8.9	21.0
1 6	4 11.81	+25 33.3	1.669	2.502	14.7	18.2	1 6	4 18.65	+7 34.6	2.682	3.464	11.2	21.1
254984	2005 <i>SJ</i> ₂₅₈	12	4.1 98°77	1°1/ 3.8	18		442285	2011 <i>SD</i> ₁	12	4.1 2°85	10°0/ 6.8	17	
10 28	5 9.72	+19 29.0	2.083	2.885	13.7	20.8	10 28	5 13.95	+42 44.4	1.432	2.211	20.0	20.9
11 7	5 4.83	+19 20.0	2.006	2.892	10.6	20.6	11 7	5 10.39	+44 0.6	1.362	2.210	17.0	20.7
11 17	4 57.71	+19 9.6	1.953	2.898	6.9	20.4	11 17	5 2.57	+44 58.0	1.310	2.210	13.9	20.5
11 27	4 49.01	+18 58.5	1.926	2.905	3.0	20.1	11 27	4 51.42	+45 27.7	1.279	2.210	11.1	20.3
12 7	4 39.68	+18 47.8	1.929	2.911	1.8	20.1	12 7	4 38.73	+45 23.5	1.272	2.212	10.0	20.3
12 17	4 30.75	+18 39.0	1.961	2.917	5.5	20.3	12 17	4 26.71	+44 45.8	1.288	2.215	11.2	20.4
12 27	4 23.19	+18 34.1	2.021	2.923	9.2	20.6	12 27	4 17.43	+43 41.9	1.327	2.218	13.9	20.5
1 6	4 17.71	+18 34.5	2.106	2.930	12.4	20.8	1 6	4 12.15	+42 23.5	1.388	2.223	17.0	20.7
305071	2007 <i>UC</i> ₁₀₂	12	4.1 335°97	0°1/ 4.0	18		305279	2007 <i>YB</i> ₆₃	12	4.1 24°31	0°9/ 4.3	18	
10 28	5 10.52	+21 52.0	1.727	2.539	15.7	20.9	10 28	5 10.79	+24 44.9	1.731	2.540	15.8	21.0
11 7	5 6.09	+21 54.7	1.646	2.537	12.2	20.6	11 7	5 6.29	+24 51.8	1.654	2.542	12.3	20.8
11 17	4 58.87	+21 54.7	1.586	2.534	8.1	20.4	11 17	4 59.00	+24 53.5	1.599	2.545	8.2	20.5
11 27	4 49.60	+21 51.4	1.552	2.532	3.4	20.1	11 27	4 49.67	+24 48.9	1.570	2.548	3.6	20.3
12 7	4 39.42	+21 45.4	1.546	2.529	1.4	20.0	12 7	4 39.48	+24 38.2	1.568	2.551	1.6	20.1
12 17	4 29.62	+21 38.2	1.567	2.527	6.2	20.3	12 17	4 29.75	+24 22.9	1.594	2.555	6.1	20.4
12 27	4 21.47	+21 32.3	1.616	2.526	10.6	20.5	12 27	4 21.75	+24 6.6	1.647	2.559	10.3	20.7
1 6	4 15.86	+21 30.3	1.688	2.524	14.4	20.8	1 6	4 16.32	+23 52.5	1.724	2.563	14.0	20.9
243553	5066 <i>T</i> ₋₃	12	4.1 85°78	0°8/ 4.3	18		281801	2009 <i>WS</i> ₃₄	12	4.1 300°70	0°1/ 4.1	18	
10 28	5 11.08	+23 16.4	2.224	3.019	13.2	20.3	10 28	5 12.54	+21 51.2	1.527	2.344	17.2	20.7
11 7	5 5.86	+23 43.0	2.147	3.027	10.2	20.1	11 7	5 8.13	+22 6.5	1.444	2.337	13.4	20.4
11 17	4 58.39	+24 7.3	2.092	3.035	6.8	19.9	11 17	5 0.51	+22 19.9	1.382	2.331	8.9	20.1
11 27	4 49.31	+24 27.8	2.066	3.044	3.0	19.7	11 27	4 50.42	+22 30.2	1.345	2.324	3.8	19.8
12 7	4 39.55	+24 43.9	2.069	3.052	1.3	19.6	12 7	4 39.14	+22 36.8	1.334	2.318	1.6	19.7
12 17	4 30.14	+24 55.6	2.102	3.060	5.0	19.9	12 17	4 28.22	+22 40.5	1.351	2.312	6.9	20.0
12 27	4 22.06	+25 4.4	2.163	3.068	8.6	20.1	12 27	4 19.17	+22 43.8	1.394	2.306	11.8	20.3
1 6	4 16.04	+25 12.5	2.251	3.076	11.6	20.3	1 6	4 13.07	+22 49.7	1.460	2.300	16.0	20.5
511260	2014 <i>CF</i> ₄	12	4.1 249°96	1°6/ 3.7	18		394579	2007 <i>VY</i> ₆₈	12	4.1 129°86	4°2/ 2.4	18	
10 28	5 12.24	+18 49.7	1.757	2.566	15.6	22.0	10 28	5 10.23	+13 59.9	1.950	2.754	14.5	21.7
11 7	5 7.42	+18 40.3	1.667	2.556	12.2	21.8	11 7	5 5.22	+12 52.8	1.877	2.761	11.3	21.5
11 17	4 59.79	+18 29.9	1.598	2.545	8.1	21.5	11 17	4 57.95	+11 45.8	1.828	2.767	7.8	21.3
11 27	4 50.03	+18 19.1	1.556	2.534	3.6	21.2	11 27	4 49.12	+10 43.0	1.805	2.774	4.8	21.1
12 7	4 39.24	+18 9.3	1.541	2.523	2.3	21.1	12 7	4 39.73	+9 48.6	1.812	2.780	4.7	21.1
12 17	4 28.74	+18 2.1	1.555	2.512	6.7	21.4	12 17	4 30.81	+9 6.5	1.847	2.786	7.5	21.3
12 27	4 19.82	+17 59.9	1.596	2.500	11.1	21.6	12 27	4 23.33	+8 39.2	1.910	2.791	10.8	21.5
1 6	4 13.44	+18 4.7	1.661	2.488	15.0	21.8	1 6	4 17.99	+8 27.2	1.996	2.796	13.9	21.7
77135	2001 <i>DT</i> ₁₀₃	12	4.1 257°08	3°4/ 5.1	18		454915	2015 <i>TJ</i> ₁₃₆	12	4.1 84°63	3°3/ 3.4	18	
10 28	5 14.83	+30 55.1	1.496	2.299	18.1	19.5	10 28	5 10.66	+12 32.9	2.010	2.811	14.2	21.1
11 7	5 10.13	+31 2.9	1.414	2.295	14.4	19.3	11 7	5 5.50	+12 24.8	1.943	2.825	11.1	20.9
11 17	5 1.89	+30 58.7	1.352	2.291	10.1	19.0	11 17	4 58.11	+12 21.0	1.899	2.839	7.6	20.7
11 27	4 50.97	+30 39.0	1.314	2.287	5.6	18.7	11 27	4 49.20	+12 23.0	1.881	2.852	4.3	20.5
12 7	4 38.87	+30 3.1	1.303	2.282	3.6	18.6	12 7	4 39.71	+12 32.0	1.892	2.866	3.7	20.5
12 17	4 27.32	+29 14.0	1.319	2.278	7.3	18.8	12 17	4 30.67	+12 48.7	1.933	2.880	6.5	20.7
12 27	4 17.99	+28 18.2	1.361	2.273	12.0	19.1	12 27	4 23.04	+13 13.2	2.001	2.893	9.9	21.0
1 6	4 11.93	+27 23.5	1.425	2.269	16.1	19.3	1 6	4 17.49	+13 45.0	2.094	2.906	12.9	21.2
223059	2002 <i>TR</i> ₁₉₈	12	4.1 97°31	2°8/ 4.9	18		404172	2013 <i>CH</i> ₈₃	12	4.1 206°04	6°1/ 2.1	18	

EPHEMERIDES

12 4.1

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
406281	2007 <i>EU</i> ₁₄₅	12 4.1	71°29'	1.4°/ 4.5	18		492259	2013 <i>WH</i> ₃₆	12 4.1	26°67'	2.9°/ 4.9	18	
10 28	5 10.59	+26 6.2	2.094	2.890	13.9	21.3	10 28	5 11.20	+29 28.1	1.081	1.917	21.5	20.8
11 7	5 5.67	+26 20.6	2.016	2.897	10.8	21.1	11 7	5 7.98	+29 26.3	1.026	1.927	16.9	20.6
11 17	4 58.36	+26 29.8	1.962	2.903	7.2	20.9	11 17	5 0.68	+29 10.4	0.989	1.938	11.5	20.3
11 27	4 49.35	+26 32.4	1.934	2.910	3.4	20.7	11 27	4 50.49	+28 38.3	0.974	1.950	5.8	20.1
12 7	4 39.65	+26 28.1	1.935	2.917	1.8	20.6	12 7	4 39.27	+27 51.3	0.982	1.964	3.2	19.9
12 17	4 30.34	+26 18.2	1.965	2.924	5.3	20.8	12 17	4 29.07	+26 54.9	1.014	1.978	8.0	20.3
12 27	4 22.48	+26 5.1	2.024	2.931	8.9	21.1	12 27	4 21.65	+25 57.6	1.070	1.993	13.3	20.6
1 6	4 16.83	+25 52.1	2.107	2.938	12.1	21.3	1 6	4 17.95	+25 6.8	1.146	2.010	17.8	20.9
197690	2004 <i>OE</i> ₂	12 4.1	77°84'	1.3°/ 3.8	18		13345	1998 <i>SW</i> ₁₃₂	12 4.1	17°64'	2.9°/ 2.9	18	
10 28	5 14.63	+20 24.9	1.563	2.374	17.1	20.8	10 28	5 6.87	+16 56.1	1.950	2.762	14.2	17.5
11 7	5 9.06	+20 5.8	1.507	2.397	13.2	20.6	11 7	5 2.76	+16 6.2	1.875	2.765	11.0	17.3
11 17	5 0.62	+19 43.8	1.472	2.420	8.6	20.3	11 17	4 56.41	+15 14.8	1.823	2.768	7.4	17.0
11 27	4 50.26	+19 20.1	1.464	2.443	3.7	20.1	11 27	4 48.53	+14 24.9	1.797	2.772	3.9	16.8
12 7	4 39.32	+18 56.6	1.482	2.465	2.1	20.1	12 7	4 40.04	+13 39.9	1.800	2.776	3.4	16.8
12 17	4 29.17	+18 36.0	1.530	2.487	6.6	20.4	12 17	4 31.98	+13 3.2	1.831	2.780	6.6	17.0
12 27	4 21.01	+18 21.3	1.604	2.509	11.0	20.7	12 27	4 25.30	+12 37.5	1.890	2.785	10.2	17.3
1 6	4 15.60	+18 14.5	1.701	2.531	14.6	21.0	1 6	4 20.69	+12 23.9	1.972	2.790	13.4	17.5
259400	2003 <i>QZ</i> ₅	12 4.1	69°46'	3.5°/ 5.0	18		381042	2006 <i>VP</i> ₁₁₈	12 4.1	337°46'	1.0°/ 3.8	18	
10 28	5 17.25	+30 17.4	1.296	2.107	20.0	20.9	10 28	5 5.19	+23 38.6	1.077	1.929	20.5	20.4
11 7	5 12.07	+30 33.6	1.238	2.124	15.7	20.7	11 7	5 3.55	+22 58.4	1.000	1.912	16.1	20.1
11 17	5 3.09	+30 37.6	1.200	2.141	10.9	20.4	11 17	4 58.06	+22 6.7	0.940	1.897	10.7	19.7
11 27	4 51.43	+30 25.6	1.185	2.158	5.8	20.2	11 27	4 49.55	+21 5.4	0.902	1.883	4.6	19.3
12 7	4 38.84	+29 57.3	1.195	2.175	3.7	20.1	12 7	4 39.57	+19 58.9	0.886	1.870	2.3	19.2
12 17	4 27.25	+29 16.2	1.232	2.192	7.6	20.4	12 17	4 30.07	+18 54.5	0.895	1.859	8.7	19.5
12 27	4 18.29	+28 29.4	1.294	2.209	12.3	20.7	12 27	4 22.94	+18 0.2	0.925	1.849	14.8	19.8
1 6	4 12.90	+27 44.4	1.378	2.226	16.4	21.0	1 6	4 19.40	+17 21.8	0.975	1.841	20.0	20.1
175533	2006 <i>SE</i> ₁₂₄	12 4.1	67°87'	0.5°/ 4.0	18		286311	2001 <i>WB</i> ₅₅	12 4.1	296°43'	0.0°/ 3.9	17	
10 28	5 11.62	+20 15.3	1.838	2.645	15.1	20.3	10 28	5 13.26	+23 53.0	1.295	2.121	19.2	21.0
11 7	5 6.68	+20 28.1	1.763	2.650	11.7	20.1	11 7	5 9.17	+23 39.4	1.218	2.116	15.0	20.7
11 17	4 59.14	+20 40.2	1.710	2.656	7.7	19.8	11 17	5 1.42	+23 18.6	1.160	2.110	10.0	20.4
11 27	4 49.72	+20 51.0	1.683	2.662	3.3	19.6	11 27	4 50.87	+22 50.1	1.125	2.105	4.3	20.1
12 7	4 39.50	+21 0.4	1.684	2.668	1.5	19.5	12 7	4 39.06	+22 15.4	1.116	2.100	1.7	19.9
12 17	4 29.69	+21 9.1	1.715	2.674	5.9	19.8	12 17	4 27.79	+21 38.5	1.133	2.095	7.7	20.2
12 27	4 21.47	+21 18.6	1.773	2.680	10.0	20.0	12 27	4 18.79	+21 4.8	1.175	2.091	13.1	20.5
1 6	4 15.66	+21 30.7	1.855	2.686	13.5	20.3	1 6	4 13.18	+20 39.5	1.238	2.086	17.8	20.8
1925	Franklin-Adams	12 4.1	55°11'	3.7°/ 3.5	18		409056	2003 <i>SZ</i> ₁₁₆	12 4.1	35°58'	0.0°/ 3.9	18	
10 28	5 12.34	+13 22.7	1.485	2.303	17.5	15.7	10 28	5 8.69	+25 9.5	1.866	2.674	14.9	19.7
11 7	5 7.43	+13 13.1	1.429	2.321	13.6	15.5	11 7	5 4.26	+24 28.1	1.797	2.685	11.5	19.5
11 17	4 59.65	+13 8.4	1.394	2.339	9.2	15.3	11 17	4 57.41	+23 38.8	1.751	2.698	7.5	19.3
11 27	4 49.90	+13 10.7	1.383	2.357	5.0	15.1	11 27	4 48.93	+22 43.2	1.731	2.710	3.2	19.1
12 7	4 39.46	+13 21.2	1.399	2.376	4.1	15.1	12 7	4 39.91	+21 44.1	1.739	2.723	1.3	19.0
12 17	4 29.70	+13 40.6	1.443	2.394	7.7	15.3	12 17	4 31.48	+20 45.6	1.777	2.737	5.6	19.3
12 27	4 21.86	+14 9.0	1.512	2.413	11.8	15.6	12 27	4 24.65	+19 52.5	1.842	2.751	9.6	19.6
1 6	4 16.74	+14 45.5	1.604	2.432	15.4	15.9	1 6	4 20.10	+19 8.2	1.932	2.765	13.0	19.8
301983	2000 <i>KW</i> ₄₀	12 4.1	305°83'	0.0°/ 4.1	17		77704	2001 <i>OC</i> ₂₇	12 4.1	219°50'	2.1°/ 3.0	18	
10 28	5 9.69	+22 25.9	1.712	2.526	15.8	20.4	10 28	5 7.28	+18 24.6	2.613	3.408	11.4	19.9
11 7	5 5.75	+22 31.5	1.615	2.506	12.3	20.2	11 7	5 2.54	+17 31.7	2.523	3.405	8.8	19.7
11 17	4 58.89	+22 34.0	1.539	2.487	8.2	19.9	11 17	4 56.05	+16 35.8	2.458	3.401	5.9	19.5
11 27	4 49.76	+22 32.9	1.488	2.467	3.6	19.6	11 27	4 48.33	+15 39.1	2.421	3.397	3.0	19.3
12 7	4 39.44	+22 28.1	1.464	2.448	1.5	19.4	12 7	4 40.14	+14 44.5	2.415	3.392	2.5	19.2
12 17	4 29.29	+22 21.0	1.469	2.429	6.5	19.7	12 17	4 32.23	+13 55.0	2.440	3.388	5.3	19.4
12 27	4 20.70	+22 14.3	1.499	2.411	11.1	19.9	12 27	4 25.37	+13 13.4	2.494	3.383	8.3	19.6
1 6	4 14.71	+22 11.0	1.553	2.393	15.3	20.1	1 6	4 20.14	+12 41.5	2.574	3.379	11.0	19.8
103430	2000 <i>AT</i> ₁₅₉	12 4.1	343°56'	0.0°/ 4.0	18		13457	6761 <i>P-L</i>	12 4.1	302°47'	4.6°/ 2.4	18	
10 28	5 8.78	+22 3.4	1.448	2.274	17.5	19.0	10 28	5 6.46	+10 19.3	2.185	2.987	13.2	18.1
11 7	5 5.36	+22 13.8	1.368	2.266	13.6	18.7	11 7	5 2.26	+9 34.6	2.101	2.981	10.5	17.9
11 17	4 58.75	+22 21.7	1.308	2.259	9.0	18.5	11 17	4 56.04	+8 53.4	2.040	2.975	7.5	17.8
11 27	4 49.70	+22 26.2	1.272	2.252	3.9	18.1	11 27	4 48.39	+8 19.0	2.006	2.969	5.1	17.6
12 7	4 39.49	+22 27.4	1.262	2.247	1.6	18.0	12 7	4 40.11	+7 54.5	2.001	2.963	5.0	17.6
12 17	4 29.66	+22 26.5	1.279	2.242	7.0	18.3	12 17	4 32.11	+7 42.2	2.024	2.957	7.3	17.7
12 27	4 21.72	+22 26.1	1.321	2.238	11.9	18.6	12 27	4 25.27	+7 43.4	2.074	2.952	10.3	17.9
1 6	4 16.71	+22 29.3	1.385	2.234	16.2	18.8	1 6	4 20.25	+7 57.5	2.148	2.946	13.1	18.1
228503	2001 <i>TX</i> ₇	12 4.1	44°67'	0.4°/ 4.0	18		355370	2007 <i>TO</i> ₃₁₄	12 4.1	337°39'	0.6°/ 3.9	18	
10 28	5 13.48	+21 3.5	1.235	2.066	19.7	19.5	10 28	5 8.68	+20 33.4	1.456	2.283	17.4	20.3
11 7	5 8.93	+21 10.8	1.185	2.085	15.2	19.3	11 7	5 5.27	+20 39.0	1.374	2.273	13.6	20.1
11 17	5 0.91	+21 15.8	1.155	2.106	9.9	19.1	11 17	4 58.71	+20 43.2	1.312	2.263	9.0	19.8
11 27	4 50.48	+21 18.0	1.147	2.127	4.2	18.8	11 27	4 49.72	+20 45.9	1.274	2.255	3.9	19.4
12 7	4 39.26	+21 17.7	1.165	2.149	1.8	18.7	12 7	4 39.56	+20 47.5	1.263	2.246	1.8	19.3
12 17	4 28.96	+21 16.7	1.210	2.172	7.3	19.1	12 17	4 29.73	+20 49.4	1.277	2.239	7.1	19.6
12 27	4 21.06	+21 17.9	1.279	2.194	12.3	19.5	12 27	4 21.74	+20 53.7	1.317	2.233	12.0	19.9
1 6	4 16.41	+21 23.9	1.369	2.218	16.4	19.8	1 6	4 16.65	+21 3.0	1.379	2.227	16.3	20.1
241853	2001 <i>TQ</i> ₉₈	12 4.1	29°79'	1.9°/ 3.5	18		197028	2003 <i>UJ</i> ₁₂₄	12 4.1	354°36'	0.3°/ 3.9		

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
403500	2009 VY ₁₄	12 4.1 49°69	0°7/ 4.4 16				242078	2002 TH ₁₉₁	12 4.1 138°07	1°8/ 3.3 18			
10 28	5 9.66	+25 25.8	1.942	2.746	14.5	21.1	10 28	5 12.11	+20 7.5	2.221	3.015	13.3	20.5
11 7	5 4.97	+25 16.2	1.875	2.761	11.2	20.9	11 7	5 6.41	+19 12.1	2.145	3.027	10.2	20.3
11 17	4 57.88	+25 0.3	1.831	2.776	7.4	20.7	11 17	4 58.63	+18 12.4	2.094	3.037	6.7	20.1
11 27	4 49.16	+24 38.2	1.813	2.791	3.3	20.4	11 27	4 49.45	+17 10.9	2.070	3.047	3.1	19.9
12 7	4 39.87	+24 10.9	1.824	2.807	1.3	20.3	12 7	4 39.79	+16 10.7	2.077	3.057	2.4	19.9
12 17	4 31.13	+23 40.9	1.863	2.823	5.4	20.6	12 17	4 30.62	+15 15.7	2.115	3.066	5.7	20.1
12 27	4 23.95	+23 11.7	1.930	2.840	9.2	20.9	12 27	4 22.84	+14 29.2	2.183	3.075	9.1	20.3
1 6	4 19.02	+22 46.4	2.022	2.856	12.4	21.1	1 6	4 17.07	+13 53.5	2.275	3.083	12.1	20.6
455689	2005 EL ₁₀₂	12 4.1 331°33	13°4/25.5 17				158278	2001 UF ₁₆	12 4.1 9°62	1°1/ 3.9 18			
10 28	5 2.99	- 5 38.3	1.703	2.490	16.9	20.2	10 28	5 8.46	+20 28.0	1.177	2.019	19.7	19.0
11 7	5 0.29	- 8 8.0	1.625	2.463	15.2	20.1	11 7	5 5.51	+20 21.7	1.114	2.021	15.3	18.7
11 17	4 55.15	-10 26.5	1.568	2.437	13.8	19.9	11 17	4 59.00	+20 13.0	1.069	2.023	10.1	18.4
11 27	4 48.15	-12 22.3	1.534	2.412	13.4	19.8	11 27	4 49.85	+20 2.6	1.047	2.027	4.3	18.1
12 7	4 40.22	-13 45.7	1.523	2.388	14.2	19.8	12 7	4 39.61	+19 52.1	1.049	2.032	2.2	18.0
12 17	4 32.47	-14 30.8	1.534	2.365	15.9	19.9	12 17	4 30.01	+19 43.9	1.076	2.038	7.9	18.4
12 27	4 26.02	-14 36.3	1.564	2.343	18.1	20.0	12 27	4 22.70	+19 41.3	1.126	2.046	13.2	18.7
1 6	4 21.76	-14 5.9	1.610	2.322	20.2	20.1	1 6	4 18.68	+19 46.5	1.197	2.054	17.7	19.0
96917	1999 TD ₁₁₃	12 4.1 46°24	2°3/ 4.8 18				286913	2002 PW ₈₈	12 4.1 118°34	4°1/ 3.3 18			
10 28	5 14.66	+28 37.6	1.329	2.146	19.3	18.8	10 28	5 14.54	+12 38.6	1.623	2.430	16.8	21.4
11 7	5 9.66	+28 36.4	1.283	2.173	15.0	18.6	11 7	5 9.01	+12 16.3	1.558	2.442	13.1	21.2
11 17	5 1.25	+28 24.1	1.256	2.200	10.1	18.4	11 17	5 0.69	+11 58.4	1.513	2.454	9.0	21.0
11 27	4 50.60	+27 59.3	1.252	2.229	4.9	18.1	11 27	4 50.42	+11 47.5	1.495	2.466	5.2	20.8
12 7	4 39.34	+27 23.2	1.275	2.257	2.6	18.1	12 7	4 39.41	+11 45.7	1.504	2.477	4.5	20.8
12 17	4 29.15	+26 40.1	1.325	2.286	6.9	18.4	12 17	4 28.99	+11 54.4	1.541	2.487	7.9	21.0
12 27	4 21.41	+25 56.1	1.400	2.316	11.4	18.8	12 27	4 20.37	+12 14.2	1.604	2.498	11.8	21.2
1 6	4 16.87	+25 17.0	1.498	2.345	15.3	19.1	1 6	4 14.37	+12 44.3	1.691	2.507	15.3	21.5
401592	2013 GG ₁₀	12 4.1 198°37	1°9/ 3.5 18				402675	2006 UV ₂₇₉	12 4.1 344°08	0°4/ 4.0 17			
10 28	5 9.58	+17 48.0	2.074	2.877	13.7	21.4	10 28	5 10.04	+21 37.3	1.863	2.671	14.9	21.9
11 7	5 4.82	+17 28.3	1.991	2.876	10.7	21.2	11 7	5 5.54	+21 34.9	1.781	2.669	11.5	21.7
11 17	4 57.80	+17 7.8	1.930	2.876	7.1	20.9	11 17	4 58.46	+21 29.6	1.721	2.668	7.6	21.5
11 27	4 49.17	+16 48.0	1.897	2.874	3.4	20.7	11 27	4 49.52	+21 21.5	1.687	2.667	3.2	21.2
12 7	4 39.85	+16 30.4	1.893	2.873	2.4	20.6	12 7	4 39.75	+21 11.3	1.682	2.666	1.4	21.0
12 17	4 30.86	+16 17.1	1.918	2.872	5.9	20.9	12 17	4 30.35	+21 0.5	1.705	2.665	5.9	21.4
12 27	4 23.22	+16 10.0	1.971	2.871	9.6	21.1	12 27	4 22.48	+20 51.8	1.756	2.664	10.0	21.6
1 6	4 17.63	+16 10.5	2.049	2.869	12.9	21.3	1 6	4 16.95	+20 47.6	1.831	2.664	13.6	21.8
440028	2002 PG ₁₉	12 4.1 86°35	3°9/ 3.1 15				113106	2002 RD ₇₇	12 4.1 108°15	4°5/ 5.7 18			
10 28	5 13.15	+12 33.7	1.925	2.723	14.8	22.7	10 28	5 16.26	+35 15.0	2.036	2.806	15.1	20.0
11 7	5 7.28	+12 2.0	1.872	2.751	11.5	22.6	11 7	5 10.26	+35 40.7	1.965	2.821	12.2	19.9
11 17	4 59.19	+11 33.9	1.841	2.780	7.9	22.4	11 17	5 1.48	+35 54.5	1.916	2.837	8.9	19.7
11 27	4 49.65	+11 12.0	1.838	2.807	4.7	22.3	11 27	4 50.74	+35 52.7	1.893	2.852	5.8	19.5
12 7	4 39.70	+10 58.6	1.864	2.834	4.2	22.3	12 7	4 39.29	+35 34.1	1.899	2.866	4.6	19.5
12 17	4 30.39	+10 55.2	1.919	2.861	6.9	22.5	12 17	4 28.44	+35 0.4	1.933	2.880	6.5	19.6
12 27	4 22.65	+11 2.3	2.001	2.887	10.2	22.8	12 27	4 19.43	+34 16.5	1.995	2.894	9.5	19.8
1 6	4 17.10	+11 19.6	2.108	2.913	13.1	23.0	1 6	4 13.05	+33 28.4	2.083	2.907	12.5	20.1
260019	2004 FS ₁₅₄	12 4.1 287°73	7°2/ 6.4 17				485770	2012 CO ₂₉	12 4.1 49°08	3°8/ 3.1 18			
10 28	5 14.96	+41 4.3	1.932	2.691	16.2	20.1	10 28	5 8.63	+12 57.3	1.910	2.718	14.6	21.4
11 7	5 10.08	+41 44.3	1.838	2.678	13.6	19.8	11 7	5 4.15	+12 29.7	1.838	2.724	11.4	21.2
11 17	5 1.87	+42 9.2	1.764	2.664	10.8	19.6	11 17	4 57.38	+12 5.1	1.789	2.730	7.9	21.0
11 27	4 51.08	+42 13.1	1.713	2.651	8.2	19.5	11 27	4 49.00	+11 46.4	1.766	2.737	4.6	20.8
12 7	4 39.04	+41 52.3	1.689	2.638	7.2	19.4	12 7	4 39.99	+11 35.7	1.771	2.743	4.1	20.8
12 17	4 27.38	+41 7.3	1.692	2.625	8.5	19.4	12 17	4 31.39	+11 34.7	1.804	2.750	7.0	21.0
12 27	4 17.69	+40 3.6	1.722	2.612	11.3	19.6	12 27	4 24.20	+11 44.5	1.865	2.757	10.5	21.2
1 6	4 11.04	+38 49.6	1.775	2.600	14.3	19.7	1 6	4 19.14	+12 4.6	1.949	2.764	13.6	21.4
421991	2014 QY ₃₀₇	12 4.1 64°00	6°0/ 2.6 18				373579	2002 AW ₁₁	12 4.1 276°65	14°1/ 4.2 14 C			
10 28	5 8.01	+ 5 23.7	2.078	2.872	14.0	20.1	10 28	5 28.31	- 1 6.9	0.852	1.665	27.7	20.7
11 7	5 3.41	+ 4 49.0	2.011	2.880	11.3	19.9	11 7	5 24.25	- 1 36.6	0.751	1.628	24.2	20.3
11 17	4 56.75	+ 4 22.8	1.966	2.889	8.5	19.8	11 17	5 14.18	- 1 38.7	0.664	1.588	19.8	19.8
11 27	4 48.68	+ 4 8.6	1.947	2.897	6.4	19.6	11 27	4 57.74	- 0 54.4	0.593	1.545	15.5	19.4
12 7	4 40.07	+ 4 9.0	1.956	2.906	6.3	19.7	12 7	4 35.86	+ 0 53.5	0.542	1.501	14.4	19.1
12 17	4 31.85	+ 4 25.0	1.992	2.914	8.2	19.8	12 17	4 11.23	+ 3 51.3	0.513	1.455	19.0	19.0
12 27	4 24.89	+ 4 56.0	2.056	2.923	10.8	20.0	12 27	3 47.92	+ 7 47.9	0.506	1.407	26.9	19.2
1 6	4 19.85	+ 5 39.9	2.142	2.932	13.4	20.2	1 6	3 29.47	+12 19.5	0.515	1.358	35.2	19.4
302705	2002 TN ₁₇₅	12 4.1 136°19	2°8/ 5.3 18				226467	2003 SE ₁₅₇	12 4.1 0°60	4°4/ 2.5 17			
10 28	5 14.53	+32 28.4	2.151	2.927	14.2	20.6	10 28	5 6.17	+12 6.7	1.985	2.795	14.0	19.7
11 7	5 8.63	+32 17.1	2.072	2.936	11.3	20.4	11 7	5 2.21	+11 16.8	1.909	2.795	11.0	19.5
11 17	5 0.25	+31 54.3	2.015	2.946	7.9	20.2	11 17	4 56.10	+10 29.3	1.855	2.794	7.8	19.3
11 27	4 50.17	+31 18.7	1.986	2.955	4.4	20.0	11 27	4 48.46	+ 9 47.7	1.827	2.794	5.0	19.2
12 7	4 39.49	+30 30.8	1.986	2.963	2.9	19.9	12 7	4 40.21	+ 9 15.7	1.828	2.794	4.8	19.2
12 17	4 29.38	+29 33.6	2.016	2.971	5.5	20.1	12 17	4 32.31	+ 8 55.9	1.856	2.795	7.4	19.3
12 27	4 20.92	+28 32.3	2.075	2.979	8.9	20.4	12 27	4 25.70	+ 8 49.8	1.911	2.796	10.6	19.5
1 6	4 14.82	+27 32.3	2.159	2.986	12.0	20.6	1 6	4 21.08	+ 8 57.4	1.990	2.798	13.6	19.7
185255	2006 UW ₇₇	12 4.1 298°09	1°3/ 4.5 18				312602	2009 LZ ₁	12 4.1 341°88	7°9/ 1.2 18			
10 28	5 10.75	+26 12.6	1.9										

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12 4.1

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
21914	Melakabinoff	12	4.1	146°61	0°5/ 3.9	18	434493	2005 SO ₃₄	12	4.1	10°71	1°9/ 4.4	18
10 28	5 15.60	+22 52.9	1.856	2.653	15.4	18.7	10 28	5 12.95	+24 22.3	1.315	2.140	19.0	20.3
11 7	5 9.64	+22 27.8	1.781	2.664	11.9	18.5	11 7	5 8.96	+25 3.4	1.245	2.141	14.9	20.1
11 17	5 1.01	+21 57.1	1.729	2.673	7.8	18.3	11 17	5 1.34	+25 41.5	1.194	2.142	10.0	19.8
11 27	4 50.54	+21 21.5	1.703	2.682	3.3	18.0	11 27	4 50.93	+26 13.1	1.166	2.145	4.7	19.5
12 7	4 39.39	+20 42.8	1.707	2.691	1.5	17.9	12 7	4 39.25	+26 35.7	1.165	2.147	2.5	19.4
12 17	4 28.82	+20 4.4	1.741	2.698	6.0	18.2	12 17	4 28.08	+26 49.0	1.189	2.151	7.4	19.7
12 27	4 19.97	+19 30.0	1.802	2.705	10.1	18.5	12 27	4 19.17	+26 55.8	1.238	2.155	12.5	20.0
1 6	4 13.63	+19 3.0	1.889	2.711	13.7	18.7	1 6	4 13.64	+27 0.4	1.309	2.160	16.9	20.3
226669	2004 GJ ₄₆	12	4.1	154°18	0°4/ 4.2	18	194522	2001 XF ₁₄	12	4.1	12°04	4°6/ 4.9	18
10 28	5 14.83	+23 30.2	1.749	2.551	16.0	21.6	10 28	5 12.22	+29 36.3	1.256	2.079	19.8	19.5
11 7	5 9.38	+23 34.0	1.672	2.556	12.4	21.4	11 7	5 8.72	+30 31.8	1.189	2.081	15.8	19.2
11 17	5 1.05	+23 33.4	1.616	2.561	8.2	21.2	11 17	5 1.34	+31 19.0	1.142	2.084	11.1	19.0
11 27	4 50.64	+23 27.4	1.586	2.565	3.6	20.9	11 27	4 50.97	+31 52.3	1.117	2.089	6.5	18.7
12 7	4 39.35	+23 16.3	1.585	2.569	1.4	20.7	12 7	4 39.24	+32 7.8	1.117	2.094	4.8	18.7
12 17	4 28.54	+23 1.8	1.612	2.572	6.1	21.1	12 17	4 28.13	+32 5.6	1.142	2.100	8.3	18.9
12 27	4 19.51	+22 47.1	1.667	2.575	10.5	21.3	12 27	4 19.49	+31 50.6	1.191	2.107	12.9	19.2
1 6	4 13.15	+22 35.6	1.747	2.577	14.2	21.6	1 6	4 14.49	+31 29.8	1.261	2.115	17.1	19.4
89275	2001 VD ₁₃	12	4.1	0°89	7°0/ 6.1	18	108581	2001 MS ₈	12	4.1	132°19	0°8/ 4.4	18
10 28	5 13.45	+37 9.5	1.374	2.173	19.7	17.7	10 28	5 16.21	+25 14.5	1.901	2.693	15.2	19.9
11 7	5 9.69	+37 49.6	1.301	2.172	16.2	17.4	11 7	5 10.11	+25 12.6	1.829	2.708	11.8	19.7
11 17	5 1.96	+38 13.2	1.247	2.171	12.3	17.2	11 17	5 1.33	+25 4.5	1.780	2.721	7.8	19.5
11 27	4 51.20	+38 13.6	1.214	2.171	8.6	17.0	11 27	4 50.70	+24 49.5	1.757	2.734	3.5	19.2
12 7	4 39.11	+37 47.5	1.206	2.171	7.0	16.9	12 7	4 39.39	+24 28.1	1.763	2.747	1.5	19.1
12 17	4 27.71	+36 57.0	1.223	2.173	9.1	17.0	12 17	4 28.66	+24 2.3	1.800	2.759	5.7	19.4
12 27	4 18.86	+35 50.0	1.265	2.175	12.9	17.3	12 27	4 19.67	+23 36.0	1.864	2.770	9.7	19.7
1 6	4 13.72	+34 36.8	1.328	2.177	16.8	17.5	1 6	4 13.21	+23 12.9	1.954	2.780	13.2	19.9
12550	1998 QR ₃₀	12	4.1	238°82	6°8/ 1.6	18	441799	2009 FJ ₄₁	12	4.1	321°95	0°8/ 3.9	18
10 28	5 8.99	+ 6 19.8	1.947	2.745	14.7	17.5	10 28	5 9.92	+19 49.0	1.567	2.387	16.7	20.6
11 7	5 4.44	+ 5 11.1	1.867	2.738	12.0	17.3	11 7	5 6.08	+19 58.1	1.480	2.375	13.0	20.3
11 17	4 57.61	+ 4 8.3	1.809	2.732	9.1	17.1	11 17	4 59.21	+20 6.8	1.413	2.363	8.7	20.0
11 27	4 49.14	+ 3 16.5	1.777	2.725	7.1	16.9	11 27	4 50.00	+20 15.2	1.372	2.352	3.7	19.7
12 7	4 39.95	+ 2 40.6	1.773	2.718	7.2	16.9	12 7	4 39.62	+20 23.2	1.357	2.341	1.8	19.5
12 17	4 31.08	+ 2 23.6	1.795	2.711	9.4	17.1	12 17	4 29.49	+20 31.7	1.370	2.330	6.8	19.8
12 27	4 23.53	+ 2 26.6	1.844	2.704	12.3	17.2	12 27	4 21.08	+20 42.5	1.408	2.321	11.6	20.1
1 6	4 18.05	+ 2 48.2	1.915	2.696	15.1	17.4	1 6	4 15.41	+20 57.5	1.469	2.311	15.8	20.3
64519	2001 VQ ₉₆	12	4.1	257°88	7°9/ 2.8	18	81780	2000 JQ ₇₃	12	4.1	118°99	6°1/ 2.2	18
10 28	5 12.07	+ 2 20.1	1.768	2.558	16.3	19.7	10 28	5 9.61	+ 4 37.3	2.292	3.074	13.2	20.3
11 7	5 7.15	+ 1 48.5	1.683	2.546	13.5	19.4	11 7	5 4.38	+ 3 46.6	2.229	3.090	10.7	20.2
11 17	4 59.59	+ 1 29.1	1.620	2.535	10.6	19.2	11 17	4 57.27	+ 3 3.6	2.189	3.105	8.2	20.0
11 27	4 50.06	+ 1 27.0	1.580	2.523	8.3	19.1	11 27	4 48.92	+ 2 32.2	2.177	3.120	6.4	20.0
12 7	4 39.57	+ 1 45.8	1.567	2.511	8.1	19.0	12 7	4 40.14	+ 2 15.4	2.193	3.134	6.4	20.0
12 17	4 29.33	+ 2 26.3	1.582	2.499	10.3	19.1	12 17	4 31.76	+ 2 14.5	2.237	3.148	8.1	20.1
12 27	4 20.54	+ 3 27.1	1.622	2.487	13.4	19.3	12 27	4 24.60	+ 2 29.5	2.309	3.161	10.4	20.3
1 6	4 14.11	+ 4 44.3	1.684	2.475	16.5	19.5	1 6	4 19.21	+ 2 58.6	2.404	3.174	12.7	20.5
324781	2007 GR ₇₅	12	4.1	81°70	0°7/ 4.0	18	7659	1993 CP ₁	12	4.1	207°32	6°6/ 1.9	18
10 28	5 11.66	+18 6.4	2.241	3.036	13.1	20.1	10 28	5 9.88	+ 5 7.5	2.091	2.880	14.1	18.1
11 7	5 6.26	+18 34.2	2.165	3.046	10.1	19.9	11 7	5 4.96	+ 4 11.1	2.011	2.876	11.5	17.9
11 17	4 58.69	+19 3.4	2.112	3.056	6.7	19.8	11 17	4 57.89	+ 3 21.6	1.953	2.871	8.9	17.7
11 27	4 49.57	+19 33.3	2.088	3.066	2.9	19.5	11 27	4 49.26	+ 2 43.8	1.922	2.867	6.9	17.6
12 7	4 39.80	+20 3.1	2.093	3.076	1.4	19.4	12 7	4 39.98	+ 2 21.6	1.918	2.861	6.9	17.6
12 17	4 30.35	+20 32.6	2.129	3.086	5.1	19.7	12 17	4 30.99	+ 2 17.1	1.942	2.856	8.9	17.7
12 27	4 22.19	+21 2.0	2.194	3.096	8.6	19.9	12 27	4 23.25	+ 2 31.0	1.993	2.850	11.6	17.9
1 6	4 16.01	+21 32.1	2.285	3.106	11.7	20.2	1 6	4 17.48	+ 3 1.3	2.067	2.843	14.3	18.1
240141	2002 JW ₁₀₃	12	4.1	275°28	3°3/ 2.9	18	319882	2006 WB ₁₂₃	12	4.1	145°87	0°6/ 3.9	18
10 28	5 10.06	+17 36.3	1.754	2.567	15.5	20.1	10 28	5 15.09	+21 54.4	1.678	2.483	16.4	22.0
11 7	5 5.66	+16 36.1	1.666	2.557	12.1	19.9	11 7	5 9.58	+21 38.0	1.603	2.490	12.7	21.8
11 17	4 58.61	+15 31.8	1.600	2.546	8.2	19.6	11 17	5 1.18	+21 17.3	1.551	2.497	8.4	21.5
11 27	4 49.63	+14 27.1	1.560	2.535	4.3	19.4	11 27	4 50.71	+20 52.7	1.524	2.503	3.6	21.2
12 7	4 39.77	+13 26.3	1.548	2.524	3.8	19.3	12 7	4 39.42	+20 25.6	1.525	2.509	1.7	21.1
12 17	4 30.27	+12 34.3	1.565	2.514	7.5	19.5	12 17	4 28.69	+19 58.9	1.556	2.514	6.5	21.5
12 27	4 22.33	+11 55.2	1.608	2.503	11.7	19.7	12 27	4 19.81	+19 36.2	1.613	2.519	10.9	21.7
1 6	4 16.79	+11 31.3	1.674	2.492	15.4	19.9	1 6	4 13.63	+19 20.6	1.695	2.523	14.7	22.0
52357	1993 FK ₂₆	12	4.1	189°47	0°6/ 4.3	18	318368	2004 VK ₃₅	12	4.1	137°58	0°1/ 4.1	18
10 28	5 13.89	+25 6.1	1.679	2.484	16.4	19.4	10 28	5 10.18	+21 41.7	2.581	3.370	11.8	21.1
11 7	5 8.84	+24 55.7	1.597	2.484	12.8	19.1	11 7	5 4.85	+21 46.8	2.501	3.379	9.1	20.9
11 17	5 0.79	+24 38.4	1.538	2.483	8.5	18.9	11 17	4 57.64	+21 49.7	2.445	3.388	5.9	20.8
11 27	4 50.57	+24 13.3	1.504	2.482	3.7	18.6	11 27	4 49.11	+21 50.2	2.418	3.397	2.5	20.5
12 7	4 39.41	+23 41.6	1.497	2.481	1.5	18.4	12 7	4 40.05	+21 48.7	2.421	3.405	1.0	20.4
12 17	4 28.74	+23 6.2	1.520	2.480	6.3	18.8	12 17	4 31.31	+21 46.1	2.455	3.413	4.5	20.7
12 27	4 19.91	+22 31.5	1.569	2.478	10.9	19.0	12 27	4 23.69	+21 43.7	2.519	3.421	7.7	20.9
1 6	4 13.84	+22 2.0	1.642	2.477	14.8	19.3	1 6	4 17.82	+21 43.4	2.609	3.428	10.4	21.1
493975	2016 AN ₇₃	12	4.1	24°21	2°5/ 5.2	17	15636	2000 JD ₃₁	12	4.2	286°35	0°5/ 4.3	18
10 28	5 9.31	+31 37.2	1.887	2.683	15.2	20							

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12 4.2

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
487136	2014 <i>OA</i> ₂₀₂	12	4.2 336°38	1.7/ 4.6	17		376681	2013 <i>QS</i> ₃₉	12	4.2 316°68	6.3/ 1.7	17	
10 28	5 10.64	+26 42.6	1.882	2.683	15.0	21.6	10 28	5 5.78	+ 4 6.5	2.355	3.143	12.8	21.0
11 7	5 6.15	+26 55.8	1.797	2.680	11.8	21.4	11 7	5 1.58	+ 3 11.6	2.278	3.141	10.4	20.8
11 17	4 58.98	+27 2.9	1.735	2.678	8.0	21.2	11 17	4 55.57	+ 2 23.9	2.224	3.139	8.1	20.7
11 27	4 49.82	+27 2.3	1.699	2.675	3.9	20.9	11 27	4 48.28	+ 1 47.6	2.197	3.137	6.5	20.6
12 7	4 39.78	+26 53.5	1.690	2.673	2.0	20.8	12 7	4 40.46	+ 1 25.9	2.197	3.135	6.6	20.6
12 17	4 30.08	+26 37.9	1.711	2.670	5.8	21.1	12 17	4 32.92	+ 1 20.7	2.226	3.133	8.3	20.7
12 27	4 21.97	+26 18.7	1.758	2.668	9.9	21.3	12 27	4 26.43	+ 1 32.5	2.280	3.131	10.6	20.8
1 6	4 16.31	+25 59.8	1.830	2.667	13.4	21.5	1 6	4 21.59	+ 1 59.6	2.358	3.130	12.9	21.0
150162	1997 <i>SO</i>	12	4.2 79°06	3.8/ 5.2	18		120426	3080 <i>T</i> ₋₂	12	4.2 89°92	3.7/ 5.0	18	
10 28	5 19.34	+31 11.5	1.578	2.369	17.9	19.5	10 28	5 18.16	+30 20.5	1.547	2.344	17.9	20.3
11 7	5 13.06	+31 41.7	1.523	2.396	14.1	19.3	11 7	5 12.39	+30 53.0	1.485	2.361	14.2	20.1
11 17	5 3.48	+32 0.8	1.490	2.423	9.8	19.1	11 17	5 3.22	+31 15.5	1.442	2.378	9.9	19.9
11 27	4 51.65	+32 4.9	1.481	2.450	5.6	19.0	11 27	4 51.64	+31 24.0	1.425	2.395	5.6	19.7
12 7	4 39.11	+31 52.7	1.500	2.476	3.9	18.9	12 7	4 39.16	+31 16.9	1.434	2.412	3.8	19.7
12 17	4 27.49	+31 26.8	1.546	2.502	6.9	19.2	12 17	4 27.45	+30 55.8	1.472	2.428	7.1	19.9
12 27	4 18.19	+30 52.5	1.620	2.527	10.8	19.4	12 27	4 18.01	+30 26.0	1.536	2.444	11.2	20.2
1 6	4 12.04	+30 16.4	1.718	2.552	14.3	19.7	1 6	4 11.77	+29 54.0	1.623	2.460	14.9	20.4
422196	2014 <i>RZ</i> ₄₂	12	4.2 135°36	1.7/ 4.8	18		496465	2014 <i>SQ</i> ₁₀₃	12	4.2 56°56	0.7/ 3.9	16	
10 28	5 11.42	+28 24.7	2.671	3.448	11.7	21.8	10 28	5 9.48	+21 4.4	2.008	2.813	14.1	22.0
11 7	5 5.81	+28 32.6	2.592	3.460	9.2	21.7	11 7	5 4.74	+20 54.8	1.942	2.829	10.8	21.8
11 17	4 58.27	+28 34.3	2.537	3.472	6.2	21.5	11 17	4 57.75	+20 42.6	1.898	2.844	7.1	21.6
11 27	4 49.39	+28 28.8	2.510	3.483	3.2	21.3	11 27	4 49.22	+20 28.3	1.881	2.860	3.0	21.4
12 7	4 39.99	+28 16.0	2.513	3.494	1.9	21.2	12 7	4 40.13	+20 13.2	1.892	2.876	1.4	21.3
12 17	4 30.95	+27 57.2	2.548	3.504	4.4	21.4	12 17	4 31.52	+19 59.0	1.933	2.891	5.4	21.6
12 27	4 23.11	+27 34.7	2.612	3.514	7.4	21.7	12 27	4 24.37	+19 47.9	2.002	2.908	9.1	21.8
1 6	4 17.09	+27 11.7	2.702	3.523	10.1	21.8	1 6	4 19.34	+19 41.9	2.095	2.924	12.3	22.1
241800	2001 <i>QM</i> ₁₉₉	12	4.2 90°57	2.8/ 5.5	18		296550	2009 <i>PV</i> ₂₀	12	4.2 61°78	2.0/ 4.7	18	
10 28	5 15.67	+33 18.6	2.095	2.868	14.6	19.7	10 28	5 15.00	+27 5.1	1.365	2.180	18.9	21.2
11 7	5 9.41	+32 57.8	2.029	2.892	11.5	19.5	11 7	5 10.23	+27 14.7	1.302	2.192	14.8	21.0
11 17	5 0.68	+32 24.5	1.985	2.915	8.1	19.4	11 17	5 1.94	+27 15.7	1.259	2.204	10.0	20.8
11 27	4 50.37	+31 37.7	1.969	2.937	4.5	19.2	11 27	4 51.13	+27 5.8	1.239	2.216	4.8	20.5
12 7	4 39.64	+30 38.6	1.982	2.959	2.9	19.1	12 7	4 39.38	+26 45.0	1.246	2.229	2.4	20.4
12 17	4 29.65	+29 31.3	2.025	2.981	5.4	19.3	12 17	4 28.40	+26 16.1	1.280	2.241	7.1	20.7
12 27	4 21.44	+28 21.2	2.098	3.003	8.8	19.6	12 27	4 19.77	+25 44.5	1.339	2.254	11.9	21.0
1 6	4 15.64	+27 14.1	2.197	3.024	11.8	19.8	1 6	4 14.42	+25 15.9	1.420	2.267	16.0	21.3
357465	2004 <i>ES</i> ₉₀	12	4.2 253°60	2.2/ 4.7	17		131636	2001 <i>XJ</i> ₇₂	12	4.2 310°80	0.5/ 4.0	18	
10 28	5 12.40	+27 42.9	2.072	2.863	14.2	21.9	10 28	5 10.64	+21 12.6	1.461	2.284	17.5	20.5
11 7	5 7.41	+28 5.9	1.978	2.854	11.2	21.7	11 7	5 6.93	+21 12.9	1.373	2.270	13.7	20.3
11 17	4 59.79	+28 23.4	1.906	2.844	7.7	21.4	11 17	4 59.95	+21 10.6	1.306	2.256	9.1	20.0
11 27	4 50.19	+28 32.8	1.860	2.834	4.0	21.2	11 27	4 50.41	+21 5.6	1.262	2.242	3.9	19.6
12 7	4 39.63	+28 33.2	1.844	2.824	2.4	21.0	12 7	4 39.59	+20 58.4	1.245	2.229	1.7	19.4
12 17	4 29.30	+28 24.9	1.857	2.814	5.7	21.2	12 17	4 29.04	+20 50.9	1.255	2.216	7.2	19.7
12 27	4 20.42	+28 10.8	1.898	2.804	9.5	21.5	12 27	4 20.34	+20 46.0	1.290	2.204	12.3	20.0
1 6	4 13.86	+27 54.7	1.964	2.794	12.9	21.7	1 6	4 14.62	+20 46.7	1.347	2.192	16.8	20.2
330438	2007 <i>DH</i> ₄₈	12	4.2 117°22	0.8/ 4.4	18		44258	1998 <i>QT</i> ₄₇	12	4.2 358°91	10.2/ 1.6	18	
10 28	5 10.25	+25 16.6	2.230	3.024	13.2	21.1	10 28	5 5.78	+ 2 24.5	1.376	2.196	18.6	17.2
11 7	5 5.28	+25 14.6	2.150	3.030	10.3	20.9	11 7	5 2.78	+ 1 5.3	1.313	2.192	15.5	16.9
11 17	4 58.10	+25 7.4	2.093	3.035	6.8	20.7	11 17	4 56.92	- 0 0.9	1.270	2.190	12.5	16.8
11 27	4 49.37	+24 54.4	2.062	3.040	3.0	20.5	11 27	4 48.99	- 0 46.0	1.250	2.189	10.4	16.6
12 7	4 40.01	+24 36.3	2.062	3.045	1.3	20.4	12 7	4 40.20	- 1 3.5	1.252	2.189	10.5	16.7
12 17	4 31.03	+24 14.6	2.091	3.050	5.0	20.6	12 17	4 31.89	- 0 50.7	1.278	2.190	12.7	16.8
12 27	4 23.39	+23 52.2	2.149	3.055	8.5	20.9	12 27	4 25.33	- 0 9.2	1.326	2.193	15.7	17.0
1 6	4 17.80	+23 32.1	2.232	3.060	11.7	21.1	1 6	4 21.39	+ 0 56.1	1.394	2.196	18.7	17.2
27739	Kimihiro	12	4.2 33°93	1.4/ 3.9	18		495062	2011 <i>EB</i> ₄₂	12	4.2 243°28	0.1/ 4.1	18	
10 28	5 12.81	+17 53.3	1.333	2.159	18.7	18.1	10 28	5 8.57	+22 1.8	2.776	3.565	11.0	21.7
11 7	5 8.49	+18 8.9	1.268	2.166	14.5	17.8	11 7	5 3.69	+22 3.2	2.674	3.552	8.6	21.5
11 17	5 0.81	+18 26.7	1.224	2.174	9.6	17.6	11 17	4 56.98	+22 2.2	2.596	3.538	5.6	21.3
11 27	4 50.67	+18 46.4	1.203	2.182	4.2	17.3	11 27	4 48.93	+21 58.8	2.546	3.525	2.4	21.0
12 7	4 39.50	+19 7.6	1.208	2.191	2.3	17.2	12 7	4 40.23	+21 53.3	2.527	3.510	1.0	20.9
12 17	4 28.94	+19 30.5	1.240	2.200	7.4	17.5	12 17	4 31.69	+21 46.6	2.538	3.496	4.4	21.1
12 27	4 20.51	+19 56.1	1.297	2.210	12.4	17.8	12 27	4 24.11	+21 40.2	2.580	3.482	7.5	21.3
1 6	4 15.19	+20 25.3	1.376	2.220	16.6	18.1	1 6	4 18.11	+21 36.0	2.648	3.467	10.3	21.5
267147	2000 <i>FM</i> ₄₈	12	4.2 220°01	9.3/ 6.7	17		266463	2007 <i>LD</i> ₃₆	12	4.2 251°50	4.7/ 2.7	17	
10 28	5 22.63	+51 44.4	2.706	3.381	13.9	20.6	10 28	5 7.51	+ 8 30.7	2.343	3.136	12.7	21.0
11 7	5 16.03	+53 16.8	2.620	3.377	12.4	20.5	11 7	5 3.00	+ 8 0.3	2.256	3.130	10.1	20.8
11 17	5 5.93	+54 34.7	2.555	3.373	10.9	20.4	11 17	4 56.56	+ 7 35.1	2.194	3.123	7.4	20.6
11 27	4 53.00	+55 30.8	2.514	3.368	9.7	20.3	11 27	4 48.74	+ 7 18.0	2.158	3.117	5.1	20.5
12 7	4 38.49	+56 0.0	2.498	3.364	9.3	20.2	12 7	4 40.32	+ 7 11.2	2.151	3.111	5.0	20.4
12 17	4 24.07	+56 0.5	2.508	3.359	9.8	20.3	12 17	4 32.13	+ 7 16.3	2.173	3.104	7.0	20.6
12 27	4 11.47	+55 35.4	2.544	3.354	10.9	20.3	12 27	4 25.01	+ 7 33.6	2.223	3.097	9.8	20.7
1 6	4 1.95	+54 51.4	2.602	3.349	12.4	20.4	1 6	4 19.62	+ 8 2.4	2.296	3.091	12.5	20.9
444932	2008 <i>BO</i> ₃₄	12	4.2 332°82	6.4/ 2.4	18		381352	2008 <i>CR</i> ₁₉₂	12	4.2 179°06	0.8/ 3.9	18	

EPHEMERIDES

12 4.2

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
321639	2009 <i>XF</i> ₃	12	4.2	134°20	3°0/ 3.4	17	181962	1999 <i>UU</i> ₃₅	12	4.2	102°90	4°4/ 5.2	18
10 28	5 8.60	+12 23.6	2.376	3.172	12.5	20.3	10 28	5 17.59	+31 41.2	1.493	2.291	18.4	20.5
11 7	5 3.80	+12 18.9	2.295	3.173	9.7	20.1	11 7	5 12.32	+32 16.5	1.423	2.299	14.7	20.3
11 17	4 57.06	+12 18.0	2.236	3.175	6.7	20.0	11 17	5 3.43	+32 40.9	1.373	2.307	10.5	20.1
11 27	4 48.95	+12 22.3	2.206	3.176	3.8	19.8	11 27	4 51.86	+32 49.6	1.346	2.314	6.2	19.8
12 7	4 40.26	+12 32.8	2.204	3.178	3.3	19.8	12 7	4 39.16	+32 40.0	1.346	2.322	4.5	19.8
12 17	4 31.83	+12 50.1	2.233	3.179	5.8	19.9	12 17	4 27.14	+32 14.0	1.374	2.329	7.6	20.0
12 27	4 24.51	+13 14.4	2.290	3.180	8.9	20.1	12 27	4 17.45	+31 37.1	1.427	2.336	11.8	20.2
1 6	4 18.94	+13 45.3	2.373	3.182	11.7	20.3	1 6	4 11.13	+30 56.9	1.503	2.343	15.7	20.5
229906	2009 <i>WE</i> ₈₅	12	4.2	65°37	4°0/ 5.0	18	158655	2003 <i>DF</i> ₂₄	12	4.2	276°50	4°3/ 2.9	18
10 28	5 14.96	+31 35.3	2.126	2.903	14.3	20.3	10 28	5 10.71	+14 8.0	1.609	2.425	16.5	20.5
11 7	5 9.24	+32 34.9	2.057	2.921	11.4	20.1	11 7	5 6.45	+13 24.2	1.524	2.415	13.0	20.3
11 17	5 0.89	+33 27.0	2.012	2.938	8.2	19.9	11 17	4 59.34	+12 41.2	1.461	2.405	9.0	20.0
11 27	4 50.65	+34 7.6	1.993	2.956	5.1	19.8	11 27	4 50.09	+12 2.8	1.423	2.395	5.3	19.8
12 7	4 39.59	+34 34.1	2.004	2.974	4.1	19.7	12 7	4 39.85	+11 32.7	1.412	2.385	4.8	19.7
12 17	4 28.96	+34 46.2	2.044	2.991	6.2	19.9	12 17	4 29.94	+11 14.4	1.428	2.375	8.3	19.9
12 27	4 19.94	+34 46.5	2.112	3.009	9.2	20.1	12 27	4 21.67	+11 10.4	1.469	2.365	12.5	20.1
1 6	4 13.34	+34 39.2	2.205	3.027	12.0	20.3	1 6	4 15.99	+11 20.9	1.533	2.355	16.3	20.4
291617	2006 <i>HF</i> ₁	12	4.2	235°10	2°8/ 2.9	17	487521	2014 <i>UQ</i> ₅₄	12	4.2	69°32	7°3/ 7.5	17
10 28	5 7.01	+15 31.6	2.445	3.245	12.0	20.5	10 28	5 16.58	+44 54.5	2.282	3.011	14.8	20.5
11 7	5 2.53	+14 48.2	2.359	3.241	9.4	20.3	11 7	5 10.67	+45 35.5	2.215	3.029	12.5	20.4
11 17	4 56.20	+14 4.4	2.296	3.238	6.4	20.1	11 17	5 1.86	+46 0.1	2.170	3.047	10.2	20.3
11 27	4 48.58	+13 22.4	2.261	3.234	3.5	20.0	11 27	4 51.05	+46 3.6	2.149	3.065	8.2	20.2
12 7	4 40.42	+12 44.9	2.256	3.230	3.2	19.9	12 7	4 39.52	+45 43.7	2.154	3.084	7.3	20.1
12 17	4 32.53	+12 14.5	2.281	3.226	5.8	20.1	12 17	4 28.65	+45 2.0	2.187	3.102	8.0	20.2
12 27	4 25.72	+11 53.1	2.335	3.222	8.8	20.3	12 27	4 19.70	+44 3.5	2.247	3.120	9.8	20.4
1 6	4 20.60	+11 41.9	2.413	3.219	11.6	20.5	1 6	4 13.48	+42 55.4	2.332	3.138	11.9	20.5
514916	2008 <i>TY</i> ₅₄	12	4.2	128°67	7°1/ 5.7	18	484782	2009 <i>BQ</i> ₁₈₅	12	4.2	332°44	7°0/ 6.6	17
10 28	5 19.61	+38 5.9	1.791	2.557	17.0	21.4	10 28	5 11.02	+38 44.3	1.419	2.215	19.3	21.2
11 7	5 13.80	+39 16.7	1.715	2.563	14.1	21.2	11 7	5 7.94	+39 4.0	1.332	2.200	16.1	20.9
11 17	5 4.42	+40 15.1	1.661	2.569	10.9	21.0	11 17	5 0.96	+39 4.3	1.264	2.186	12.3	20.6
11 27	4 52.31	+40 53.8	1.631	2.574	8.1	20.9	11 27	4 50.95	+38 39.2	1.217	2.173	8.7	20.4
12 7	4 38.92	+41 8.1	1.628	2.580	7.1	20.8	12 7	4 39.51	+37 45.7	1.195	2.160	7.0	20.3
12 17	4 26.01	+40 57.8	1.652	2.585	8.7	20.9	12 17	4 28.61	+36 26.8	1.198	2.149	9.0	20.4
12 27	4 15.28	+40 27.6	1.702	2.590	11.6	21.1	12 27	4 20.13	+34 51.3	1.225	2.138	13.0	20.6
1 6	4 7.84	+39 45.6	1.776	2.595	14.6	21.3	1 6	4 15.26	+33 10.9	1.274	2.129	17.0	20.8
46122	2001 <i>FJ</i> ₃₇	12	4.2	216°75	3°1/ 3.1	18	84327	2002 <i>TT</i> ₅₀	12	4.2	356°05	4°4/ 4.8	18
10 28	5 10.59	+15 6.9	2.146	2.945	13.5	20.0	10 28	5 10.72	+29 21.5	1.422	2.239	18.2	19.0
11 7	5 5.59	+14 30.0	2.057	2.938	10.6	19.8	11 7	5 7.32	+30 20.6	1.347	2.235	14.6	18.7
11 17	4 58.37	+13 53.0	1.991	2.932	7.2	19.6	11 17	5 0.38	+31 13.4	1.291	2.231	10.3	18.5
11 27	4 49.56	+13 18.5	1.952	2.924	4.0	19.3	11 27	4 50.68	+31 54.7	1.258	2.229	6.1	18.2
12 7	4 40.03	+12 49.1	1.942	2.917	3.5	19.3	12 7	4 39.62	+32 20.3	1.251	2.228	4.5	18.1
12 17	4 30.79	+12 27.2	1.963	2.909	6.5	19.5	12 17	4 28.95	+32 29.6	1.270	2.227	7.8	18.3
12 27	4 22.82	+12 15.0	2.011	2.900	10.0	19.7	12 27	4 20.39	+32 25.8	1.314	2.228	12.2	18.6
1 6	4 16.84	+12 13.5	2.084	2.891	13.1	19.9	1 6	4 15.10	+32 14.8	1.380	2.230	16.2	18.8
330570	2008 <i>CR</i> ₄₇	12	4.2	18°89	5°7/ 3.4	18	389846	2012 <i>RS</i> ₃	12	4.2	41°56	0°8/ 4.4	18
10 28	5 11.16	+10 50.3	1.174	2.009	20.2	20.0	10 28	5 12.69	+25 3.2	1.298	2.123	19.2	20.8
11 7	5 7.47	+10 28.6	1.113	2.012	16.0	19.7	11 7	5 8.46	+24 58.6	1.240	2.137	14.9	20.5
11 17	5 0.28	+10 15.5	1.070	2.016	11.3	19.5	11 17	5 0.78	+24 46.6	1.201	2.151	9.9	20.3
11 27	4 50.51	+10 15.2	1.050	2.020	6.9	19.2	11 27	4 50.67	+24 26.4	1.186	2.166	4.3	20.0
12 7	4 39.66	+10 30.3	1.053	2.026	6.1	19.2	12 7	4 39.70	+23 59.3	1.197	2.181	1.7	19.9
12 17	4 29.44	+11 1.6	1.081	2.032	9.8	19.5	12 17	4 29.56	+23 28.7	1.234	2.197	7.1	20.3
12 27	4 21.46	+11 47.9	1.133	2.039	14.5	19.7	12 27	4 21.73	+22 59.6	1.296	2.213	12.0	20.6
1 6	4 16.71	+12 46.4	1.205	2.046	18.7	20.0	1 6	4 17.11	+22 36.7	1.379	2.230	16.2	20.9
518111	2016 <i>CY</i> ₁₆₅	12	4.2	26°62	5°9/ 6.8	17	390529	1997 <i>ST</i> ₁₂	12	4.2	15°86	0°4/ 4.1	18
10 28	5 12.79	+40 52.1	2.204	2.958	14.6	20.8	10 28	5 8.75	+22 30.6	1.138	1.981	20.2	20.9
11 7	5 7.74	+41 11.9	2.123	2.961	12.1	20.6	11 7	5 5.87	+22 19.8	1.079	1.986	15.7	20.6
11 17	4 59.96	+41 16.7	2.063	2.964	9.4	20.5	11 17	4 59.34	+22 3.6	1.038	1.992	10.3	20.3
11 27	4 50.25	+41 2.8	2.027	2.967	7.0	20.3	11 27	4 50.14	+21 42.5	1.019	2.000	4.4	20.0
12 7	4 39.78	+40 28.8	2.018	2.970	5.9	20.3	12 7	4 39.90	+21 18.5	1.025	2.009	1.8	19.9
12 17	4 29.83	+39 36.5	2.038	2.974	7.1	20.3	12 17	4 30.41	+20 55.2	1.055	2.019	7.8	20.3
12 27	4 21.62	+38 30.9	2.086	2.978	9.5	20.5	12 27	4 23.31	+20 37.0	1.108	2.030	13.1	20.6
1 6	4 15.93	+37 19.0	2.158	2.982	12.1	20.7	1 6	4 19.57	+20 27.3	1.182	2.042	17.6	20.9
103489	2000 <i>AO</i> ₂₃₂	12	4.2	325°58	1°9/ 3.7	18	132812	2002 <i>QX</i> ₃₄	12	4.2	156°65	0°3/ 4.1	17
10 28	5 9.96	+18 0.6	1.695	2.510	15.8	19.7	10 28	5 8.69	+21 34.3	2.628	3.419	11.5	20.9
11 7	5 5.75	+17 48.9	1.613	2.505	12.3	19.5	11 7	5 3.77	+21 31.2	2.544	3.423	8.9	20.7
11 17	4 58.80	+17 36.8	1.552	2.500	8.2	19.2	11 17	4 57.00	+21 25.7	2.483	3.427	5.8	20.5
11 27	4 49.82	+17 25.7	1.517	2.495	3.8	18.9	11 27	4 48.95	+21 18.0	2.451	3.430	2.5	20.3
12 7	4 39.92	+17 17.0	1.509	2.491	2.5	18.9	12 7	4 40.37	+21 8.7	2.449	3.433	1.1	20.2
12 17	4 30.38	+17 12.5	1.530	2.487	6.7	19.1	12 17	4 32.06	+20 59.0	2.478	3.435	4.4	20.4
12 27	4 22.43	+17 14.3	1.577	2.483	11.1	19.4	12 27	4 24.82	+20 50.6	2.536	3.438	7.6	20.6
1 6	4 16.97	+17 23.7	1.646	2.479	14.9	19.6	1 6	4 19.25	+20 45.1	2.620	3.440	10.4	20.8
260085	2004 <i>KG</i> ₄	12	4.2	160°52	0°4/ 4.3	18	109384	2001 <i>QJ</i> ₁₆₆	12	4.2	231°45</		

EPHEMERIDES

12 4.2

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
88821	2001 <i>SB</i> ₁₅₄	12	4.2	140°88	1°2/ 4.6	18	297991	2002 <i>ND</i> ₂₇	12	4.2	78°90	8°9/ 8.1	18
10 28	5 16.55	+26 9.0	2.026	2.812	14.6	21.1	10 28	5 21.53	+46 35.7	1.866	2.596	17.6	20.0
11 7	5 10.32	+26 13.7	1.950	2.825	11.4	20.9	11 7	5 15.18	+47 21.4	1.804	2.615	15.0	19.9
11 17	5 1.52	+26 12.2	1.898	2.838	7.6	20.7	11 17	5 5.14	+47 46.4	1.761	2.634	12.3	19.8
11 27	4 50.91	+26 3.2	1.873	2.849	3.5	20.5	11 27	4 52.53	+47 44.2	1.740	2.653	10.0	19.7
12 7	4 39.61	+25 46.8	1.877	2.860	1.6	20.4	12 7	4 39.04	+47 11.6	1.745	2.672	8.9	19.6
12 17	4 28.84	+25 24.7	1.912	2.871	5.5	20.6	12 17	4 26.53	+46 11.0	1.777	2.690	9.6	19.7
12 27	4 19.71	+25 0.4	1.976	2.880	9.3	20.9	12 27	4 16.61	+44 50.0	1.834	2.708	11.6	19.9
1 6	4 13.00	+24 37.7	2.065	2.889	12.6	21.1	1 6	4 10.16	+43 18.7	1.915	2.727	14.0	20.1
231178	2005 <i>UX</i> ₂₀₆	12	4.2	332°23	0°5/ 4.3	18	517398	2014 <i>KL</i> ₁₀₆	12	4.2	243°44	2°2/ 3.5	18
10 28	5 10.13	+23 7.2	1.314	2.144	18.7	20.9	10 28	5 10.86	+17 30.5	1.996	2.800	14.2	21.9
11 7	5 6.90	+23 16.7	1.234	2.134	14.7	20.6	11 7	5 6.07	+17 6.1	1.905	2.790	11.1	21.7
11 17	5 0.13	+23 22.2	1.172	2.124	9.8	20.3	11 17	4 58.86	+16 40.6	1.835	2.780	7.4	21.5
11 27	4 50.59	+23 22.6	1.134	2.114	4.3	20.0	11 27	4 49.86	+16 15.7	1.793	2.770	3.6	21.2
12 7	4 39.68	+23 17.7	1.121	2.105	1.7	19.8	12 7	4 40.03	+15 53.4	1.779	2.759	2.7	21.1
12 17	4 29.15	+23 9.0	1.134	2.097	7.5	20.1	12 17	4 30.46	+15 36.0	1.795	2.748	6.3	21.4
12 27	4 20.70	+23 0.2	1.171	2.090	12.8	20.4	12 27	4 22.25	+15 25.7	1.839	2.737	10.2	21.6
1 6	4 15.52	+22 55.4	1.230	2.084	17.5	20.7	1 6	4 16.21	+15 24.2	1.906	2.726	13.7	21.8
337139	1999 <i>TN</i> ₂₁₁	12	4.2	76°93	8°0/30.6	17	275965	2001 <i>WE</i> ₁₈	12	4.2	94°54	3°3/ 2.9	18
10 28	5 18.43	+18 20.4	0.995	1.834	22.8	19.3	10 28	5 15.22	+17 18.1	1.706	2.510	16.2	20.0
11 7	5 13.22	+15 9.4	0.941	1.844	17.8	19.0	11 7	5 9.24	+16 13.4	1.649	2.535	12.5	19.8
11 17	5 3.96	+11 45.2	0.907	1.855	12.4	18.8	11 17	5 0.70	+15 7.0	1.615	2.559	8.3	19.7
11 27	4 51.99	+ 8 23.4	0.897	1.866	8.4	18.6	11 27	4 50.51	+14 2.7	1.608	2.582	4.4	19.5
12 7	4 39.26	+ 5 23.4	0.914	1.876	9.1	18.7	12 7	4 39.86	+13 4.9	1.630	2.605	3.8	19.5
12 17	4 27.80	+ 3 1.1	0.955	1.887	13.5	19.0	12 17	4 29.97	+12 17.9	1.680	2.627	7.3	19.8
12 27	4 19.24	+ 1 24.2	1.019	1.898	18.3	19.3	12 27	4 21.92	+11 44.6	1.758	2.649	11.1	20.0
1 6	4 14.41	+ 0 30.8	1.101	1.908	22.3	19.6	1 6	4 16.36	+11 26.0	1.860	2.671	14.3	20.3
447985	2008 <i>CX</i> ₁₆₅	12	4.2	31°63	1°0/ 4.4	18	448540	2010 <i>PZ</i> ₇₉	12	4.2	69°62	1°6/ 4.7	18
10 28	5 11.74	+23 57.1	1.913	2.715	14.8	21.3	10 28	5 12.73	+27 40.9	1.857	2.655	15.3	20.9
11 7	5 6.93	+24 18.2	1.832	2.716	11.5	21.1	11 7	5 7.55	+27 39.0	1.792	2.672	11.9	20.7
11 17	4 59.49	+24 36.0	1.773	2.718	7.7	20.9	11 17	4 59.75	+27 29.0	1.749	2.690	8.0	20.5
11 27	4 50.13	+24 49.1	1.741	2.719	3.5	20.6	11 27	4 50.17	+27 10.1	1.731	2.707	3.9	20.3
12 7	4 39.90	+24 56.7	1.737	2.721	1.5	20.5	12 7	4 39.97	+26 42.9	1.743	2.725	1.9	20.2
12 17	4 30.03	+24 59.4	1.762	2.722	5.7	20.8	12 17	4 30.39	+26 10.0	1.783	2.743	5.6	20.5
12 27	4 21.69	+24 59.3	1.815	2.724	9.7	21.0	12 27	4 22.55	+25 35.3	1.851	2.760	9.5	20.8
1 6	4 15.74	+24 59.3	1.893	2.726	13.2	21.2	1 6	4 17.18	+25 3.3	1.943	2.778	12.9	21.0
139467	2001 <i>OT</i> ₉₀	12	4.2	185°83	0°5/ 4.1	18	410125	2007 <i>FK</i> ₅₀	12	4.2	117°22	3°8/ 3.1	18
10 28	5 11.34	+21 1.1	2.000	2.801	14.2	20.0	10 28	5 8.67	+10 8.8	2.436	3.227	12.3	21.4
11 7	5 6.42	+21 1.3	1.916	2.801	11.0	19.8	11 7	5 3.73	+ 9 51.5	2.362	3.236	9.7	21.3
11 17	4 59.06	+20 59.4	1.856	2.801	7.3	19.6	11 17	4 56.97	+ 9 38.9	2.312	3.245	6.9	21.1
11 27	4 49.92	+20 55.3	1.822	2.801	3.1	19.4	11 27	4 48.95	+ 9 32.9	2.289	3.253	4.4	20.9
12 7	4 40.00	+20 49.5	1.817	2.800	1.4	19.2	12 7	4 40.44	+ 9 35.2	2.296	3.262	4.0	20.9
12 17	4 30.42	+20 43.4	1.841	2.800	5.6	19.5	12 17	4 32.24	+ 9 46.4	2.332	3.270	6.2	21.1
12 27	4 22.28	+20 39.2	1.894	2.799	9.6	19.8	12 27	4 25.15	+10 6.8	2.397	3.278	8.9	21.3
1 6	4 16.35	+20 38.8	1.971	2.798	13.0	20.0	1 6	4 19.74	+10 35.8	2.487	3.286	11.5	21.5
241106	2007 <i>KL</i> ₈	12	4.2	111°62	4°8/ 3.2	18	233439	2006 <i>HJ</i> ₇₂	12	4.2	17°98	2°9/ 3.4	18
10 28	5 14.51	+ 7 48.7	2.111	2.895	14.2	20.7	10 28	5 7.24	+14 38.9	1.975	2.785	14.1	19.9
11 7	5 8.28	+ 7 31.4	2.051	2.918	11.3	20.6	11 7	5 3.14	+14 23.9	1.901	2.790	11.0	19.7
11 17	4 59.93	+ 7 21.3	2.014	2.941	8.1	20.4	11 17	4 56.83	+14 11.1	1.850	2.794	7.4	19.5
11 27	4 50.17	+ 7 20.9	2.004	2.963	5.5	20.3	11 27	4 48.95	+14 2.5	1.825	2.799	4.0	19.3
12 7	4 39.95	+ 7 31.5	2.024	2.984	5.1	20.3	12 7	4 40.43	+13 59.6	1.828	2.805	3.2	19.3
12 17	4 30.24	+ 7 53.5	2.073	3.005	7.2	20.5	12 17	4 32.28	+14 3.7	1.860	2.811	6.3	19.5
12 27	4 21.96	+ 8 26.4	2.150	3.025	10.1	20.7	12 27	4 25.45	+14 15.8	1.918	2.817	9.8	19.7
1 6	4 15.72	+ 9 8.6	2.253	3.044	12.8	20.9	1 6	4 20.66	+14 35.9	2.001	2.824	13.0	19.9
51065	2000 <i>GC</i> ₁₄₉	12	4.2	38°73	6°6/ 6.1	18	167428	2003 <i>WQ</i> ₁₅₅	12	4.2	46°89	5°1/ 2.7	18
10 28	5 15.40	+38 5.6	1.758	2.532	17.0	19.4	10 28	5 9.56	+11 45.7	1.656	2.470	16.2	19.9
11 7	5 10.48	+38 56.7	1.683	2.537	14.0	19.3	11 7	5 5.23	+10 53.1	1.588	2.476	12.7	19.7
11 17	5 2.18	+39 34.0	1.629	2.542	10.7	19.1	11 17	4 58.31	+10 3.9	1.543	2.482	9.0	19.5
11 27	4 51.36	+39 51.7	1.599	2.547	7.8	18.9	11 27	4 49.60	+ 9 22.6	1.522	2.489	5.8	19.4
12 7	4 39.43	+39 46.3	1.595	2.552	6.7	18.9	12 7	4 40.19	+ 8 53.2	1.529	2.496	5.5	19.4
12 17	4 28.05	+39 18.7	1.618	2.557	8.3	19.0	12 17	4 31.28	+ 8 38.6	1.562	2.502	8.4	19.5
12 27	4 18.77	+38 34.2	1.667	2.563	11.3	19.1	12 27	4 23.99	+ 8 40.0	1.622	2.509	12.0	19.8
1 6	4 12.62	+37 40.8	1.739	2.568	14.3	19.4	1 6	4 19.08	+ 8 56.7	1.703	2.517	15.3	20.0
152744	1998 <i>YC</i> ₉	12	4.2	16°10	1°5/ 3.9	18	112908	2002 <i>QX</i> ₅₄	12	4.2	118°93	1°3/ 4.5	18
10 28	5 9.06	+19 42.2	1.114	1.959	20.4	19.9	10 28	5 13.01	+25 47.9	1.916	2.713	14.9	20.5
11 7	5 6.14	+19 34.2	1.055	1.964	15.8	19.6	11 7	5 7.85	+25 57.3	1.838	2.719	11.7	20.3
11 17	4 59.55	+19 24.7	1.015	1.970	10.4	19.4	11 17	5 0.05	+26 1.0	1.783	2.725	7.8	20.1
11 27	4 50.26	+19 14.7	0.997	1.977	4.6	19.1	11 27	4 50.36	+25 57.7	1.754	2.731	3.6	19.8
12 7	4 39.89	+19 6.0	1.002	1.986	2.5	19.0	12 7	4 39.89	+25 47.3	1.754	2.737	1.7	19.7
12 17	4 30.25	+19 1.1	1.033	1.995	8.1	19.3	12 17	4 29.86	+25 31.3	1.782	2.742	5.6	20.0
12 27	4 23.01	+19 2.7	1.086	2.006	13.5	19.7	12 27	4 21.44	+25 12.9	1.839	2.747	9.6	20.2
1 6	4 19.14	+19 12.8	1.159	2.018	18.0	20.0	1 6	4 15.46	+24 55.6	1.920	2.753	13.1	20.5
325540	2009 <i>SE</i> ₅₇	12	4.2	95°36	0°3/ 4.3	18	361877	2008 <i>FT</i> ₃₆	12	4.2	120°74		

EPHEMERIDES

12 4.2

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
318802	2005 <i>SN</i> ₁₅₁	12	4.2 126°40	1°1/ 3.9 18			519119	2010 <i>MF</i> ₃₄	12	4.2 104°20	5°8/ 3.0 18		
10 28	5 15.21	+20 15.4	1.803	2.604	15.6	21.5	10 28	5 11.17	+4 57.5	2.150	2.934	14.0	21.5
11 7	5 9.44	+20 2.7	1.733	2.617	12.1	21.3	11 7	5 5.78	+4 34.0	2.086	2.950	11.2	21.3
11 17	5 1.01	+19 47.6	1.686	2.630	7.9	21.1	11 17	4 58.37	+4 19.5	2.045	2.965	8.4	21.2
11 27	4 50.74	+19 30.6	1.664	2.643	3.4	20.9	11 27	4 49.58	+4 17.0	2.030	2.980	6.2	21.1
12 7	4 39.77	+19 13.1	1.672	2.655	1.8	20.8	12 7	4 40.29	+4 28.4	2.044	2.995	6.0	21.1
12 17	4 29.36	+18 57.2	1.709	2.666	6.1	21.1	12 17	4 31.42	+4 54.1	2.087	3.009	7.8	21.2
12 27	4 20.68	+18 45.5	1.774	2.677	10.2	21.3	12 27	4 23.85	+5 33.1	2.157	3.023	10.4	21.4
1 6	4 14.49	+18 40.2	1.863	2.688	13.8	21.6	1 6	4 18.20	+6 23.3	2.251	3.037	13.0	21.6
375196	2008 <i>EC</i> ₃₃	12	4.2 11°66	0°9/ 4.3 18			287154	2002 <i>RN</i> ₂₃₃	12	4.2 126°92	2°1/ 3.6 18		
10 28	5 10.73	+21 41.0	1.025	1.872	21.6	20.4	10 28	5 11.41	+17 35.5	1.976	2.778	14.4	21.6
11 7	5 7.98	+22 21.6	0.965	1.875	16.8	20.1	11 7	5 6.34	+17 12.1	1.901	2.786	11.1	21.4
11 17	5 1.11	+23 2.0	0.924	1.878	11.2	19.8	11 17	4 58.92	+16 48.1	1.849	2.793	7.4	21.2
11 27	4 51.06	+23 39.4	0.903	1.883	4.9	19.5	11 27	4 49.87	+16 24.9	1.823	2.800	3.6	21.0
12 7	4 39.61	+24 10.9	0.906	1.890	2.0	19.3	12 7	4 40.18	+16 4.7	1.827	2.807	2.6	20.9
12 17	4 28.84	+24 35.8	0.932	1.897	8.3	19.7	12 17	4 30.91	+15 49.3	1.860	2.813	6.1	21.2
12 27	4 20.74	+24 56.3	0.981	1.906	14.0	20.1	12 27	4 23.10	+15 40.9	1.921	2.820	9.8	21.4
1 6	4 16.49	+25 15.8	1.050	1.917	18.9	20.4	1 6	4 17.46	+15 40.7	2.006	2.826	13.1	21.6
5946	Hrozny	12	4.2 323°78	0°0/ 3.9 18			390644	2002 <i>OR</i> ₃₀	12	4.2 153°56	3°0/ 3.5 18		
10 28	5 10.21	+23 52.7	1.321	2.150	18.7	17.5	10 28	5 13.04	+12 19.5	2.431	3.215	12.5	21.9
11 7	5 6.92	+23 37.3	1.239	2.139	14.7	17.2	11 7	5 7.12	+12 13.8	2.352	3.225	9.8	21.7
11 17	5 0.12	+23 14.4	1.177	2.128	9.8	16.9	11 17	4 59.22	+12 11.8	2.298	3.234	6.7	21.6
11 27	4 50.60	+22 44.1	1.137	2.117	4.2	16.6	11 27	4 49.96	+12 14.5	2.272	3.242	3.8	21.4
12 7	4 39.78	+22 8.0	1.123	2.107	1.7	16.4	12 7	4 40.15	+12 23.1	2.277	3.250	3.3	21.4
12 17	4 29.38	+21 29.9	1.135	2.098	7.5	16.7	12 17	4 30.66	+12 38.0	2.312	3.257	5.8	21.5
12 27	4 21.08	+20 55.3	1.171	2.089	12.9	17.0	12 27	4 22.35	+12 59.6	2.377	3.263	8.8	21.7
1 6	4 16.01	+20 29.1	1.229	2.081	17.6	17.3	1 6	4 15.85	+13 27.6	2.468	3.269	11.5	21.9
246785	2009 <i>DC</i> ₇₄	12	4.2 357°07	6°9/ 2.4 18			483911	2006 <i>BH</i> ₈	12	4.2 248°06	4°8/ 2.3 18		
10 28	5 8.67	+7 18.8	1.622	2.434	16.6	20.5	10 28	5 7.48	+6 24.8	2.798	3.578	11.2	22.1
11 7	5 4.67	+6 24.4	1.551	2.433	13.4	20.3	11 7	5 2.78	+5 48.2	2.698	3.560	9.0	21.9
11 17	4 58.05	+5 37.5	1.501	2.432	10.0	20.1	11 17	4 56.39	+5 16.5	2.622	3.542	6.8	21.7
11 27	4 49.55	+5 3.4	1.475	2.431	7.4	19.9	11 27	4 48.79	+4 52.7	2.574	3.523	5.1	21.6
12 7	4 40.25	+4 46.6	1.475	2.431	7.3	19.9	12 7	4 40.60	+4 39.0	2.555	3.504	5.1	21.6
12 17	4 31.37	+4 49.5	1.502	2.431	9.7	20.0	12 17	4 32.54	+4 37.3	2.566	3.484	6.8	21.7
12 27	4 24.06	+5 12.2	1.553	2.431	13.1	20.2	12 27	4 25.33	+4 48.0	2.605	3.464	9.1	21.8
1 6	4 19.15	+5 52.3	1.626	2.432	16.3	20.5	1 6	4 19.55	+5 10.6	2.669	3.444	11.5	21.9
448302	2009 <i>BN</i> ₇₂	12	4.2 284°55	0°1/ 4.2 18			522088	2015 <i>XR</i> ₄₂₁	12	4.2 96°57	4°8/ 3.2 18		
10 28	5 11.05	+24 13.7	1.775	2.582	15.5	21.1	10 28	5 9.98	+5 52.3	2.435	3.216	12.6	21.1
11 7	5 6.72	+23 56.7	1.680	2.568	12.2	20.8	11 7	5 4.66	+5 40.3	2.369	3.233	10.1	21.0
11 17	4 59.56	+23 33.0	1.607	2.554	8.1	20.5	11 17	4 57.55	+5 36.1	2.327	3.249	7.4	20.8
11 27	4 50.27	+23 2.6	1.560	2.539	3.5	20.2	11 27	4 49.23	+5 41.8	2.313	3.266	5.3	20.7
12 7	4 39.95	+22 26.7	1.541	2.525	1.4	20.0	12 7	4 40.46	+5 58.6	2.327	3.282	5.0	20.7
12 17	4 29.91	+21 48.4	1.550	2.510	6.2	20.3	12 17	4 32.07	+6 26.7	2.372	3.298	6.8	20.9
12 27	4 21.47	+21 12.0	1.586	2.496	10.8	20.6	12 27	4 24.80	+7 5.5	2.444	3.314	9.2	21.1
1 6	4 15.57	+20 41.5	1.646	2.481	14.7	20.8	1 6	4 19.24	+7 53.1	2.542	3.330	11.6	21.2
216045	2006 <i>KZ</i> ₅₅	12	4.2 160°55	1°1/ 3.9 17			517400	2014 <i>LL</i> ₄	12	4.2 161°23	1°5/ 3.8 18		
10 28	5 16.45	+20 1.7	1.706	2.508	16.3	21.4	10 28	5 11.22	+19 18.1	1.918	2.723	14.6	22.3
11 7	5 10.68	+19 53.5	1.629	2.514	12.7	21.2	11 7	5 6.38	+19 1.6	1.837	2.724	11.4	22.1
11 17	5 2.01	+19 43.4	1.574	2.519	8.4	21.0	11 17	4 59.07	+18 43.5	1.780	2.725	7.5	21.9
11 27	4 51.24	+19 31.4	1.545	2.524	3.6	20.7	11 27	4 49.99	+18 24.5	1.748	2.727	3.4	21.6
12 7	4 39.60	+19 18.6	1.545	2.528	1.9	20.6	12 7	4 40.15	+18 6.3	1.746	2.728	2.1	21.5
12 17	4 28.45	+19 7.0	1.574	2.532	6.5	20.9	12 17	4 30.71	+17 51.0	1.772	2.729	6.0	21.8
12 27	4 19.11	+18 59.3	1.631	2.534	10.9	21.2	12 27	4 22.74	+17 40.9	1.826	2.729	10.0	22.0
1 6	4 12.45	+18 57.9	1.711	2.536	14.7	21.4	1 6	4 17.04	+17 37.8	1.904	2.730	13.5	22.3
227313	2005 <i>TE</i> ₃₅	12	4.2 119°52	1°7/ 3.8 18			302584	2002 <i>PS</i> ₁₈₀	12	4.2 230°21	1°2/ 3.8 18		
10 28	5 15.01	+18 46.1	1.739	2.543	16.0	21.6	10 28	5 11.31	+21 3.9	2.035	2.836	14.1	21.4
11 7	5 9.35	+18 30.0	1.671	2.557	12.3	21.4	11 7	5 6.40	+20 33.8	1.944	2.828	10.9	21.2
11 17	5 0.99	+18 12.7	1.625	2.571	8.1	21.2	11 17	4 59.08	+19 59.5	1.876	2.821	7.2	20.9
11 27	4 50.75	+17 55.2	1.606	2.584	3.7	20.9	11 27	4 50.00	+19 21.9	1.835	2.813	3.2	20.7
12 7	4 39.81	+17 39.1	1.615	2.596	2.3	20.9	12 7	4 40.15	+18 43.4	1.823	2.805	1.8	20.6
12 17	4 29.46	+17 26.4	1.653	2.609	6.5	21.2	12 17	4 30.61	+18 6.7	1.840	2.797	5.9	20.8
12 27	4 20.86	+17 19.6	1.718	2.620	10.6	21.4	12 27	4 22.48	+17 35.4	1.886	2.788	9.8	21.0
1 6	4 14.80	+17 20.3	1.807	2.631	14.1	21.7	1 6	4 16.52	+17 12.1	1.956	2.779	13.3	21.2
205993	2002 <i>OZ</i> ₂₄	12	4.2 170°01	1°6/ 4.7 18			128006	2003 <i>HG</i> ₅₅	12	4.2 171°26	0°6/ 4.0 18		
10 28	5 13.77	+27 35.8	2.227	3.011	13.5	21.5	10 28	5 9.91	+21 33.7	2.132	2.933	13.5	20.8
11 7	5 8.13	+27 41.6	2.141	3.014	10.6	21.3	11 7	5 5.17	+21 21.3	2.049	2.933	10.5	20.6
11 17	5 0.11	+27 40.8	2.079	3.017	7.2	21.1	11 17	4 58.18	+21 5.8	1.988	2.933	6.9	20.3
11 27	4 50.38	+27 32.1	2.045	3.020	3.5	20.9	11 27	4 49.59	+20 47.5	1.955	2.934	3.0	20.1
12 7	4 39.93	+27 15.2	2.040	3.021	1.9	20.8	12 7	4 40.32	+20 27.6	1.951	2.934	1.4	20.0
12 17	4 29.86	+26 51.7	2.065	3.023	5.2	21.0	12 17	4 31.39	+20 8.1	1.976	2.934	5.3	20.3
12 27	4 21.22	+26 24.8	2.119	3.024	8.7	21.2	12 27	4 23.79	+19 51.5	2.030	2.934	9.1	20.5
1 6	4 14.76	+25 58.3	2.199	3.024	11.9	21.4	1 6	4 18.25	+19 39.8	2.108	2.935	12.3	20.7
253400	2003 <i>OA</i> ₂₈	12	4.2 104°49	1°8/ 3.8 18			362978	2013 <i>CG</i> ₃₈	12	4.2 305°28	3°4/ 3.8 18		
10 28													

EPHEMERIDES

12 4.2

12 4.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
206511	2003 <i>UW</i> ₁₂₆	12 4.2 77°11	0°0/ 4.1 18				451971	2014 <i>NT</i> ₂₆	12 4.2 166°07	0°1/ 4.2 18			
10 28	5 13.50	+22 57.2	1.716	2.522	16.0	20.8	10 28	5 10.59	+23 14.0	2.041	2.841	14.0	21.5
11 7	5 8.26	+22 48.4	1.653	2.540	12.4	20.6	11 7	5 5.82	+22 58.5	1.958	2.842	10.9	21.3
11 17	5 0.30	+22 35.0	1.611	2.557	8.1	20.3	11 17	4 58.68	+22 38.1	1.897	2.842	7.2	21.1
11 27	4 50.48	+22 17.2	1.596	2.575	3.5	20.1	11 27	4 49.84	+22 13.2	1.864	2.843	3.1	20.8
12 7	4 40.02	+21 56.0	1.609	2.593	1.3	20.0	12 7	4 40.29	+21 45.0	1.859	2.843	1.2	20.7
12 17	4 30.19	+21 33.9	1.650	2.610	6.0	20.3	12 17	4 31.12	+21 16.1	1.884	2.844	5.4	21.0
12 27	4 22.18	+21 14.2	1.719	2.628	10.2	20.6	12 27	4 23.38	+20 49.3	1.938	2.844	9.3	21.2
1 6	4 16.72	+20 59.8	1.812	2.645	13.7	20.9	1 6	4 17.82	+20 27.8	2.015	2.844	12.7	21.4
490409	2009 <i>RW</i> ₇₀	12 4.2 37°13	1°5/ 3.9 16				90660	3314 <i>T</i> ₋₃	12 4.2 43°63	1°4/ 3.8 18			
10 28	5 12.20	+20 24.6	1.102	1.943	20.9	21.5	10 28	5 10.03	+19 28.4	1.784	2.596	15.3	19.8
11 7	5 8.38	+20 8.4	1.055	1.960	16.1	21.2	11 7	5 5.58	+19 14.7	1.713	2.604	11.8	19.6
11 17	5 0.87	+19 49.3	1.025	1.979	10.5	21.0	11 17	4 58.59	+18 59.4	1.665	2.612	7.8	19.3
11 27	4 50.81	+19 28.9	1.018	1.998	4.6	20.7	11 27	4 49.81	+18 43.5	1.642	2.620	3.5	19.1
12 7	4 39.91	+19 9.3	1.035	2.018	2.4	20.7	12 7	4 40.33	+18 28.6	1.647	2.629	2.0	19.0
12 17	4 30.01	+18 53.8	1.077	2.040	8.0	21.1	12 17	4 31.32	+18 16.5	1.680	2.638	6.1	19.3
12 27	4 22.64	+18 45.8	1.143	2.061	13.2	21.4	12 27	4 23.90	+18 9.6	1.741	2.647	10.2	19.6
1 6	4 18.66	+18 47.3	1.230	2.084	17.5	21.8	1 6	4 18.82	+18 9.5	1.825	2.657	13.7	19.8
150404	2000 <i>EK</i> ₁₂₉	12 4.2 202°96	2°5/ 4.9 18				95643	2002 <i>GT</i> ₈₃	12 4.2 65°23	0°1/ 4.2 18			
10 28	5 16.57	+28 48.3	1.988	2.772	14.9	20.5	10 28	5 11.15	+20 47.3	2.097	2.896	13.8	19.5
11 7	5 10.79	+29 10.0	1.896	2.768	11.8	20.3	11 7	5 6.18	+21 6.8	2.019	2.903	10.6	19.3
11 17	5 2.16	+29 24.7	1.828	2.763	8.2	20.1	11 17	4 58.89	+21 25.5	1.965	2.910	7.0	19.1
11 27	4 51.39	+29 29.6	1.785	2.758	4.4	19.8	11 27	4 49.94	+21 42.6	1.938	2.917	3.0	18.9
12 7	4 39.61	+29 23.3	1.772	2.752	2.7	19.7	12 7	4 40.28	+21 57.7	1.940	2.924	1.2	18.7
12 17	4 28.15	+29 6.6	1.789	2.745	6.0	19.9	12 17	4 30.96	+22 11.0	1.972	2.931	5.2	19.0
12 27	4 18.31	+28 43.0	1.833	2.738	9.9	20.1	12 27	4 23.01	+22 23.9	2.032	2.939	9.0	19.3
1 6	4 11.04	+28 17.4	1.903	2.730	13.4	20.4	1 6	4 17.17	+22 37.9	2.118	2.946	12.2	19.5
268182	2004 <i>XE</i> ₁₃₃	12 4.2 270°39	3°2/ 5.5 18				458469	2011 <i>BU</i> ₆₆	12 4.2 218°86	0°7/ 4.5 17			
10 28	5 10.73	+33 5.0	2.339	3.115	13.2	20.5	10 28	5 9.10	+25 26.0	2.524	3.313	12.0	22.1
11 7	5 5.87	+33 9.4	2.248	3.112	10.6	20.3	11 7	5 4.30	+25 17.9	2.432	3.309	9.3	21.9
11 17	4 58.68	+33 3.9	2.180	3.108	7.5	20.1	11 17	4 57.52	+25 4.6	2.364	3.306	6.2	21.7
11 27	4 49.83	+32 46.3	2.138	3.104	4.5	19.9	11 27	4 49.33	+24 45.9	2.324	3.302	2.8	21.5
12 7	4 40.26	+32 16.6	2.126	3.100	3.2	19.8	12 7	4 40.53	+24 22.4	2.314	3.298	1.1	21.4
12 17	4 31.04	+31 36.4	2.142	3.096	5.4	19.9	12 17	4 32.00	+23 55.8	2.334	3.293	4.5	21.6
12 27	4 23.19	+30 49.5	2.188	3.092	8.5	20.1	12 27	4 24.61	+23 28.8	2.384	3.289	7.9	21.8
1 6	4 17.47	+30 0.7	2.259	3.088	11.5	20.3	1 6	4 19.01	+23 4.0	2.459	3.284	10.8	22.0
16991	1999 <i>CW</i> ₄	12 4.2 276°33	0°3/ 4.1 18				247096	2000 <i>ST</i> ₂₉₀	12 4.2 106°34	2°0/ 3.5 18			
10 28	5 12.35	+22 20.5	1.680	2.490	16.2	18.7	10 28	5 10.15	+18 6.6	2.164	2.964	13.4	20.6
11 7	5 7.95	+22 11.1	1.584	2.473	12.7	18.4	11 7	5 5.15	+17 35.1	2.092	2.975	10.3	20.4
11 17	5 0.54	+21 57.3	1.509	2.456	8.5	18.1	11 17	4 58.05	+17 2.1	2.043	2.987	6.8	20.2
11 27	4 50.79	+21 38.9	1.459	2.439	3.7	17.8	11 27	4 49.53	+16 29.6	2.021	2.998	3.3	20.0
12 7	4 39.85	+21 16.9	1.438	2.421	1.5	17.6	12 7	4 40.48	+15 59.7	2.029	3.009	2.4	20.0
12 17	4 29.12	+20 53.6	1.444	2.404	6.6	17.9	12 17	4 31.85	+15 34.7	2.067	3.019	5.7	20.2
12 27	4 20.05	+20 32.7	1.477	2.386	11.4	18.1	12 27	4 24.56	+15 16.8	2.133	3.030	9.1	20.5
1 6	4 13.67	+20 17.7	1.533	2.369	15.6	18.4	1 6	4 19.23	+15 7.4	2.224	3.040	12.1	20.7
175306	2005 <i>MC</i> ₆	12 4.2 110°51	4°3/ 3.2 18				468733	2010 <i>RR</i> ₁₀₂	12 4.2 77°40	1°9/ 3.8 16			
10 28	5 11.03	+10 23.0	2.067	2.863	14.0	20.6	10 28	5 16.93	+19 57.8	1.287	2.108	19.5	21.5
11 7	5 5.85	+9 59.0	1.998	2.875	11.1	20.4	11 7	5 11.51	+19 27.2	1.234	2.129	15.1	21.2
11 17	4 58.51	+9 40.1	1.953	2.887	7.8	20.2	11 17	5 2.69	+18 53.6	1.202	2.151	9.9	21.0
11 27	4 49.70	+9 28.9	1.934	2.899	5.0	20.1	11 27	4 51.56	+18 18.9	1.193	2.172	4.4	20.8
12 7	4 40.33	+9 27.2	1.944	2.910	4.6	20.1	12 7	4 39.74	+17 46.0	1.211	2.193	2.7	20.7
12 17	4 31.38	+9 36.2	1.983	2.922	7.0	20.2	12 17	4 28.87	+17 18.8	1.256	2.214	7.7	21.1
12 27	4 23.77	+9 56.0	2.049	2.933	10.1	20.4	12 27	4 20.39	+17 0.8	1.326	2.235	12.5	21.4
1 6	4 18.17	+10 25.8	2.140	2.943	13.0	20.7	1 6	4 15.12	+16 54.0	1.418	2.255	16.6	21.7
329143	2011 <i>EO</i> ₇₅	12 4.2 166°24	4°8/ 2.6 17				368361	2002 <i>QW</i> ₁₄₀	12 4.2 152°87	7°4/ 8.7 17			
10 28	5 7.32	+5 43.7	2.715	3.495	11.5	21.1	10 28	5 21.02	+52 55.7	3.293	3.949	11.9	21.9
11 7	5 2.57	+5 15.9	2.636	3.498	9.2	20.9	11 7	5 13.69	+53 36.0	3.213	3.958	10.5	21.8
11 17	4 56.19	+4 54.5	2.581	3.500	6.9	20.8	11 17	5 3.76	+54 0.8	3.153	3.967	9.1	21.7
11 27	4 48.69	+4 42.0	2.553	3.502	5.2	20.7	11 27	4 52.00	+54 5.9	3.118	3.975	7.9	21.6
12 7	4 40.72	+4 40.4	2.555	3.504	5.1	20.7	12 7	4 39.53	+53 48.9	3.109	3.983	7.4	21.6
12 17	4 32.99	+4 50.6	2.586	3.506	6.7	20.8	12 17	4 27.58	+53 10.2	3.127	3.990	7.7	21.6
12 27	4 26.21	+5 12.6	2.646	3.507	8.9	20.9	12 27	4 17.31	+52 13.5	3.173	3.997	8.6	21.7
1 6	4 20.91	+5 45.3	2.730	3.508	11.1	21.1	1 6	4 9.49	+51 4.2	3.243	4.003	9.9	21.8
17765	1998 <i>EZ</i> ₇₅	12 4.2 132°18	1°6/ 4.6 18				395107	2009 <i>TL</i>	12 4.2 41°08	8°9/ 4.2 17			
10 28	5 15.75	+26 20.3	2.011	2.799	14.6	18.3	10 28	5 16.40	-1 16.0	1.527	2.309	18.8	19.5
11 7	5 9.85	+26 39.8	1.936	2.811	11.4	18.1	11 7	5 9.96	-1 35.3	1.504	2.358	15.4	19.4
11 17	5 1.34	+26 53.8	1.884	2.823	7.7	17.9	11 17	5 1.04	-1 35.8	1.501	2.407	12.0	19.3
11 27	4 50.97	+27 0.5	1.858	2.834	3.7	17.7	11 27	4 50.68	-1 13.8	1.522	2.455	9.5	19.3
12 7	4 39.85	+26 59.0	1.862	2.844	1.9	17.6	12 7	4 40.13	-0 29.0	1.569	2.504	9.0	19.4
12 17	4 29.20	+26 50.3	1.896	2.854	5.5	17.8	12 17	4 30.58	+0 35.9	1.643	2.553	10.5	19.6
12 27	4 20.16	+26 37.5	1.958	2.863	9.3	18.1	12 27	4 23.01	+1 56.4	1.742	2.601	12.9	19.8
1 6	4 13.55	+26 24.1	2.046	2.872	12.6	18.3	1 6	4 17.97	+3 26.8	1.864	2.649	15.3	20.1
114550	2003 <i>BQ</i> ₃₃	12 4.2 347°70	0°4/ 4.3 18				275572	1999 <i>TN</i> ₇₂	12 4.2 174°34	2°4/ 4.7 18			
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EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
138952	2001 <i>BP</i> ₆₃	12	4.2 294°78	2°4/ 4.9	18		171366	2006 <i>LE</i> ₂	12	4.2 223°89	1°6/ 4.8	18	
10 28	5 13.44	+28 52.5	1.403	2.217	18.6	19.9	10 28	5 14.01	+27 44.9	2.228	3.011	13.6	20.5
11 7	5 9.48	+28 48.5	1.316	2.205	14.8	19.6	11 7	5 8.51	+27 43.9	2.129	3.001	10.7	20.3
11 17	5 1.89	+28 32.9	1.250	2.194	10.2	19.3	11 17	5 0.54	+27 35.7	2.053	2.990	7.3	20.1
11 27	4 51.47	+28 3.3	1.206	2.182	5.1	19.0	11 27	4 50.74	+27 18.9	2.004	2.979	3.6	19.8
12 7	4 39.71	+27 19.8	1.189	2.171	2.7	18.8	12 7	4 40.08	+26 53.7	1.985	2.967	1.8	19.7
12 17	4 28.38	+26 25.8	1.198	2.160	7.4	19.1	12 17	4 29.67	+26 21.6	1.996	2.954	5.3	19.9
12 27	4 19.22	+25 28.5	1.232	2.149	12.5	19.4	12 27	4 20.65	+25 46.2	2.036	2.941	9.0	20.1
1 6	4 13.40	+24 35.2	1.289	2.139	17.1	19.6	1 6	4 13.83	+25 11.7	2.102	2.927	12.4	20.3
22028	1999 <i>XP</i> ₁₂₅	12	4.2 135°55	3°1/ 5.2	18		163247	2002 <i>FP</i> ₂₈	12	4.2 173°58	0°6/ 4.4	18	
10 28	5 18.72	+30 46.6	1.801	2.585	16.3	18.7	10 28	5 14.63	+24 2.6	2.343	3.127	13.0	20.9
11 7	5 12.52	+31 2.0	1.728	2.597	12.9	18.5	11 7	5 8.69	+24 12.8	2.256	3.130	10.1	20.7
11 17	5 3.28	+31 7.2	1.676	2.609	9.0	18.3	11 17	5 0.49	+24 19.2	2.193	3.133	6.7	20.5
11 27	4 51.87	+30 59.3	1.651	2.621	5.0	18.1	11 27	4 50.66	+24 21.0	2.158	3.136	3.0	20.3
12 7	4 39.62	+30 37.6	1.653	2.631	3.3	18.0	12 7	4 40.13	+24 17.9	2.153	3.137	1.2	20.1
12 17	4 28.00	+30 4.0	1.685	2.641	6.3	18.2	12 17	4 29.90	+24 10.8	2.180	3.138	4.9	20.4
12 27	4 18.37	+29 23.7	1.745	2.651	10.2	18.5	12 27	4 20.99	+24 1.9	2.236	3.138	8.5	20.6
1 6	4 11.59	+28 42.5	1.829	2.659	13.7	18.7	1 6	4 14.12	+23 53.8	2.318	3.137	11.6	20.8
176923	2002 <i>VT</i> ₁₀₉	12	4.2 35°68	3°0/ 4.7	18		220814	2004 <i>TL</i> ₂₆₁	12	4.2 126°66	1°3/ 3.8	18	
10 28	5 14.09	+26 45.3	1.520	2.330	17.6	19.5	10 28	5 9.35	+19 21.1	2.277	3.075	12.8	21.0
11 7	5 9.44	+27 40.0	1.457	2.343	13.8	19.3	11 7	5 4.57	+19 5.2	2.197	3.080	9.9	20.8
11 17	5 1.52	+28 29.8	1.414	2.356	9.4	19.0	11 17	4 57.73	+18 47.6	2.140	3.084	6.5	20.6
11 27	4 51.20	+29 10.5	1.396	2.370	5.0	18.8	11 27	4 49.46	+18 29.3	2.110	3.088	2.9	20.4
12 7	4 39.86	+29 39.0	1.405	2.385	3.2	18.7	12 7	4 40.60	+18 11.8	2.111	3.093	1.8	20.3
12 17	4 29.11	+29 55.0	1.441	2.400	6.9	19.0	12 17	4 32.07	+17 56.6	2.141	3.097	5.2	20.5
12 27	4 20.41	+30 1.2	1.504	2.415	11.1	19.3	12 27	4 24.77	+17 45.8	2.199	3.100	8.6	20.8
1 6	4 14.75	+30 2.4	1.589	2.432	14.8	19.6	1 6	4 19.36	+17 40.9	2.283	3.104	11.7	21.0
523465	2017 <i>FD</i> ₁₀₇	12	4.2 39°91	6°3/ 3.4	18		226951	2004 <i>VC</i> ₁₃	12	4.2 0°51	2°6/ 3.7	17	
10 28	5 9.79	+3 34.8	1.982	2.771	14.8	20.5	10 28	5 7.88	+15 31.2	1.777	2.593	15.2	20.1
11 7	5 5.02	+3 22.4	1.915	2.780	12.0	20.4	11 7	5 4.03	+15 23.4	1.700	2.591	11.8	19.8
11 17	4 58.06	+3 21.3	1.869	2.788	9.1	20.2	11 17	4 57.69	+15 17.9	1.644	2.591	8.0	19.6
11 27	4 49.58	+3 34.8	1.849	2.797	6.9	20.1	11 27	4 49.52	+15 16.3	1.614	2.590	4.0	19.4
12 7	4 40.50	+4 4.1	1.856	2.807	6.5	20.1	12 7	4 40.56	+15 19.8	1.612	2.591	3.0	19.3
12 17	4 31.81	+4 49.2	1.892	2.816	8.4	20.2	12 17	4 31.94	+15 29.6	1.637	2.592	6.6	19.5
12 27	4 24.45	+5 48.3	1.954	2.826	11.1	20.4	12 27	4 24.79	+15 46.6	1.689	2.594	10.6	19.8
1 6	4 19.11	+6 58.2	2.040	2.836	13.8	20.6	1 6	4 19.91	+16 10.9	1.765	2.596	14.1	20.0
29886	Randytung	12	4.2 322°15	2°2/ 3.7	18		189687	2001 <i>SC</i> ₁₄₄	12	4.2 5°52	4°1/ 3.1	18	
10 28	5 9.29	+18 44.0	1.381	2.211	18.0	18.4	10 28	5 9.61	+16 11.2	1.328	2.160	18.5	20.0
11 7	5 6.03	+18 21.9	1.297	2.197	14.1	18.1	11 7	5 6.07	+15 20.1	1.259	2.159	14.4	19.8
11 17	4 59.51	+17 57.6	1.233	2.184	9.5	17.8	11 17	4 59.34	+14 28.1	1.210	2.160	9.8	19.5
11 27	4 50.45	+17 33.2	1.192	2.171	4.4	17.5	11 27	4 50.29	+13 39.6	1.185	2.161	5.4	19.3
12 7	4 40.14	+17 11.1	1.177	2.159	2.9	17.3	12 7	4 40.28	+12 59.2	1.186	2.162	4.6	19.2
12 17	4 30.14	+16 54.5	1.188	2.147	7.9	17.6	12 17	4 30.83	+12 31.3	1.212	2.164	8.7	19.5
12 27	4 22.03	+16 46.8	1.223	2.136	13.0	17.8	12 27	4 23.37	+12 19.0	1.262	2.167	13.3	19.8
1 6	4 16.89	+16 49.9	1.280	2.126	17.5	18.1	1 6	4 18.84	+12 22.9	1.333	2.171	17.4	20.0
446132	2013 <i>EL</i> ₄₇	12	4.2 328°60	3°5/ 3.3	17		368356	2002 <i>QM</i> ₁₂₁	12	4.2 120°89	4°0/ 6.1	17	
10 28	5 7.90	+16 8.7	1.535	2.361	16.7	21.4	10 28	5 12.88	+36 51.0	2.721	3.474	12.1	22.3
11 7	5 4.53	+15 32.5	1.451	2.348	13.1	21.1	11 7	5 7.18	+37 6.4	2.643	3.486	9.8	22.2
11 17	4 58.28	+14 55.9	1.388	2.336	8.9	20.9	11 17	4 59.38	+37 11.2	2.588	3.499	7.3	22.0
11 27	4 49.85	+14 21.8	1.349	2.325	4.8	20.6	11 27	4 50.14	+37 3.1	2.559	3.511	5.0	21.9
12 7	4 40.39	+13 53.9	1.336	2.314	4.0	20.5	12 7	4 40.35	+36 41.4	2.561	3.523	4.0	21.8
12 17	4 31.24	+13 35.5	1.350	2.304	7.9	20.7	12 17	4 30.99	+36 7.6	2.592	3.535	5.3	21.9
12 27	4 23.74	+13 29.2	1.390	2.295	12.4	21.0	12 27	4 22.95	+35 25.0	2.652	3.546	7.7	22.1
1 6	4 18.86	+13 36.1	1.451	2.286	16.4	21.2	1 6	4 16.89	+34 38.1	2.739	3.557	10.0	22.3
293861	2007 <i>RN</i> ₂₄₄	12	4.2 161°00	3°3/ 3.2	18		367396	2008 <i>PM</i> ₅	12	4.2 115°15	6°1/ 2.2	18	
10 28	5 11.86	+13 55.9	2.230	3.023	13.2	22.2	10 28	5 8.39	+1 3.9	2.756	3.521	11.7	21.5
11 7	5 6.43	+13 22.3	2.152	3.030	10.3	22.0	11 7	5 3.24	+0 22.0	2.695	3.540	9.6	21.4
11 17	4 58.91	+12 50.2	2.097	3.035	7.1	21.8	11 17	4 56.57	+0 11.0	2.659	3.559	7.7	21.3
11 27	4 49.94	+12 21.8	2.070	3.040	4.1	21.7	11 27	4 48.88	+0 31.9	2.650	3.577	6.3	21.3
12 7	4 40.39	+11 59.4	2.072	3.045	3.6	21.6	12 7	4 40.84	+0 38.7	2.669	3.594	6.3	21.3
12 17	4 31.21	+11 45.0	2.105	3.049	6.3	21.8	12 17	4 33.15	+0 30.4	2.717	3.611	7.5	21.4
12 27	4 23.29	+11 40.1	2.166	3.052	9.5	22.0	12 27	4 26.43	+0 7.5	2.793	3.628	9.4	21.5
1 6	4 17.31	+11 45.2	2.252	3.055	12.4	22.2	1 6	4 21.19	+0 28.1	2.893	3.644	11.2	21.7
70680	1999 <i>UN</i> ₄	12	4.2 340°94	8°7/ 5.1	18		166257	2002 <i>GC</i> ₅₅	12	4.2 190°21	0°5/ 4.1	18	
10 28	5 15.45	+37 10.0	1.458	2.250	19.1	17.4	10 28	5 13.18	+21 28.2	2.390	3.177	12.6	22.1
11 7	5 11.70	+38 52.9	1.379	2.241	16.0	17.1	11 7	5 7.50	+21 19.5	2.299	3.176	9.8	21.9
11 17	5 3.84	+40 26.1	1.318	2.233	12.6	16.9	11 17	4 59.67	+21 7.9	2.232	3.174	6.5	21.6
11 27	4 52.53	+41 39.9	1.281	2.225	9.7	16.7	11 27	4 50.31	+20 53.4	2.192	3.171	2.8	21.4
12 7	4 39.30	+42 26.2	1.268	2.219	8.8	16.6	12 7	4 40.27	+20 37.1	2.184	3.167	1.2	21.3
12 17	4 26.24	+42 41.6	1.280	2.213	10.6	16.7	12 17	4 30.52	+20 20.2	2.206	3.163	5.0	21.5
12 27	4 15.56	+42 30.0	1.315	2.208	13.9	16.9	12 27	4 21.99	+20 5.3	2.258	3.158	8.5	21.8
1 6	4 8.74	+42 0.6	1.372	2.204	17.3	17.1	1 6	4 15.39	+19 54.3	2.336	3.153	11.6	21.9
19251	Totziens	12	4.2 47°77	11°5/ 2.2	18		188569	2004 <i>TO</i> ₃₀₁	12	4.2 98°89	4°4/ 2.7	18	
10 28	5 11.41</												

EPHEMERIDES

12 4.2

12 4.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
409723	2006 <i>BO</i> ₂₇₇	12	4.2 359°25	4.5/ 5.8	17		486751	2014 <i>FX</i> ₃₆	12	4.3 188°50	6.3/ 3.1	18	
10 28	5 12.07	+35 18.2	2.168	2.941	14.2	21.0	10 28	5 12.37	+ 4 45.9	1.968	2.755	15.0	21.4
11 7	5 7.23	+35 43.1	2.083	2.941	11.5	20.8	11 7	5 7.14	+ 4 22.1	1.889	2.754	12.2	21.2
11 17	4 59.78	+35 57.2	2.020	2.940	8.5	20.7	11 17	4 59.58	+ 4 8.0	1.833	2.754	9.2	21.0
11 27	4 50.42	+35 57.1	1.983	2.940	5.7	20.5	11 27	4 50.33	+ 4 7.3	1.802	2.753	6.8	20.9
12 7	4 40.24	+35 41.3	1.973	2.940	4.5	20.4	12 7	4 40.34	+ 4 22.4	1.800	2.751	6.5	20.9
12 17	4 30.44	+35 11.2	1.993	2.940	6.3	20.5	12 17	4 30.67	+ 4 53.8	1.825	2.750	8.6	21.0
12 27	4 22.18	+34 30.6	2.040	2.941	9.2	20.7	12 27	4 22.35	+ 5 40.5	1.878	2.748	11.6	21.2
1 6	4 16.31	+33 44.9	2.112	2.941	12.2	20.9	1 6	4 16.16	+ 6 40.0	1.954	2.746	14.5	21.4
201166	2002 <i>NP</i> ₂₀	12	4.2 124°70	1.2/ 3.7	18		278976	2008 <i>UM</i> ₁₆₆	12	4.3 107°51	0.5/ 4.4	17	
10 28	5 8.61	+20 22.6	2.506	3.300	11.9	20.6	10 28	5 9.21	+23 55.6	2.464	3.256	12.2	21.2
11 7	5 3.77	+19 51.6	2.426	3.308	9.2	20.4	11 7	5 4.44	+24 3.4	2.379	3.258	9.4	21.0
11 17	4 57.09	+19 17.8	2.371	3.315	6.0	20.2	11 17	4 57.67	+24 7.9	2.319	3.261	6.3	20.8
11 27	4 49.16	+18 42.4	2.344	3.322	2.7	20.0	11 27	4 49.48	+24 8.4	2.286	3.264	2.8	20.6
12 7	4 40.75	+18 7.3	2.347	3.329	1.7	20.0	12 7	4 40.67	+24 5.0	2.283	3.266	1.1	20.4
12 17	4 32.68	+17 34.7	2.380	3.335	4.8	20.2	12 17	4 32.14	+23 58.7	2.310	3.269	4.6	20.7
12 27	4 25.75	+17 7.1	2.443	3.342	8.0	20.4	12 27	4 24.77	+23 51.4	2.366	3.272	7.9	20.9
1 6	4 20.53	+16 46.3	2.532	3.348	10.8	20.6	1 6	4 19.20	+23 45.1	2.448	3.274	10.8	21.1
483356	2016 <i>RK</i> ₁₀	12	4.2 77°93	5.3/ 5.8	18		429762	2012 <i>DN</i> ₁₃	12	4.3 153°37	4.6/ 5.4	18	
10 28	5 18.71	+34 32.9	1.471	2.263	18.9	20.9	10 28	5 19.28	+32 54.0	1.588	2.377	17.9	21.8
11 7	5 13.23	+35 2.5	1.410	2.279	15.2	20.7	11 7	5 13.62	+33 23.5	1.513	2.382	14.4	21.6
11 17	5 4.07	+35 17.6	1.368	2.296	11.1	20.5	11 17	5 4.40	+33 41.1	1.457	2.387	10.3	21.4
11 27	4 52.30	+35 13.2	1.349	2.312	7.0	20.3	11 27	4 52.53	+33 42.1	1.425	2.391	6.3	21.1
12 7	4 39.57	+34 47.5	1.357	2.328	5.3	20.2	12 7	4 39.51	+33 24.1	1.421	2.395	4.6	21.1
12 17	4 27.74	+34 3.3	1.392	2.345	7.8	20.4	12 17	4 27.11	+32 48.9	1.445	2.398	7.5	21.2
12 27	4 18.41	+33 8.1	1.452	2.361	11.7	20.7	12 27	4 16.98	+32 2.6	1.495	2.401	11.5	21.5
1 6	4 12.52	+32 10.2	1.536	2.376	15.4	21.0	1 6	4 10.14	+31 13.0	1.568	2.404	15.3	21.7
41241	1999 <i>XV</i> ₂₆	12	4.2 90°25	1.2/ 3.9	18		296015	2008 <i>YY</i> ₁₂₅	12	4.3 136°69	4.4/ 6.1	18	
10 28	5 14.36	+20 9.8	1.843	2.644	15.3	19.5	10 28	5 17.11	+36 36.9	2.144	2.905	14.7	20.9
11 7	5 8.66	+19 52.5	1.782	2.667	11.8	19.3	11 7	5 10.97	+36 44.7	2.065	2.915	11.9	20.7
11 17	5 0.47	+19 32.9	1.744	2.689	7.7	19.1	11 17	5 2.12	+36 39.1	2.009	2.925	8.8	20.5
11 27	4 50.61	+19 11.9	1.733	2.712	3.4	18.9	11 27	4 51.39	+36 17.0	1.979	2.935	5.8	20.4
12 7	4 40.22	+18 51.0	1.751	2.734	1.8	18.8	12 7	4 39.97	+35 38.0	1.977	2.944	4.5	20.3
12 17	4 30.47	+18 32.5	1.798	2.755	5.9	19.1	12 17	4 29.16	+34 44.4	2.005	2.953	6.2	20.4
12 27	4 22.40	+18 18.9	1.873	2.776	9.8	19.4	12 27	4 20.11	+33 41.5	2.062	2.961	9.2	20.6
1 6	4 16.72	+18 12.1	1.973	2.797	13.1	19.7	1 6	4 13.63	+32 35.9	2.144	2.969	12.2	20.9
489177	2006 <i>GB</i> ₃₃	12	4.2 241°55	8.9/28.9	17		407153	2009 <i>TW</i> ₄₄	12	4.3 12°48	9.6/ 2.8	18	
10 28	5 6.64	- 4 21.4	2.575	3.330	12.7	21.7	10 28	5 6.37	- 0 42.8	1.594	2.395	17.3	19.7
11 7	5 2.23	- 6 0.9	2.499	3.322	11.0	21.6	11 7	5 2.89	- 1 30.4	1.536	2.400	14.6	19.6
11 17	4 56.11	- 7 30.4	2.448	3.314	9.6	21.5	11 17	4 56.91	- 2 1.8	1.498	2.406	11.9	19.4
11 27	4 48.77	- 8 44.1	2.422	3.306	8.9	21.4	11 27	4 49.19	- 2 11.0	1.483	2.413	10.0	19.3
12 7	4 40.30	- 9 37.2	2.424	3.298	9.2	21.4	12 7	4 40.80	- 1 54.3	1.492	2.422	9.8	19.3
12 17	4 33.24	-10 6.9	2.451	3.289	10.4	21.5	12 17	4 32.87	- 1 11.5	1.525	2.431	11.4	19.5
12 27	4 26.53	-10 12.9	2.502	3.281	12.0	21.6	12 27	4 26.49	- 0 5.4	1.583	2.442	14.0	19.6
1 6	4 21.35	- 9 57.2	2.574	3.272	13.7	21.7	1 6	4 22.40	+ 1 18.6	1.661	2.454	16.6	19.8
39514	1986 <i>TV</i> ₃	12	4.2 35°38	1.2/ 4.4	18		472065	2013 <i>YY</i> ₇₄	12	4.3 20°25	2.7/ 3.9	18	
10 28	5 13.65	+23 55.0	1.030	1.872	21.9	17.4	10 28	5 11.57	+16 4.1	1.244	2.077	19.4	20.3
11 7	5 10.00	+24 14.8	0.982	1.887	17.0	17.1	11 7	5 7.83	+16 6.5	1.181	2.082	15.1	20.1
11 17	5 2.25	+24 29.2	0.952	1.904	11.3	16.9	11 17	5 0.65	+16 12.5	1.137	2.087	10.1	19.8
11 27	4 51.58	+24 35.8	0.943	1.922	5.0	16.6	11 27	4 50.93	+16 23.4	1.115	2.093	4.9	19.6
12 7	4 39.88	+24 34.2	0.957	1.941	2.0	16.5	12 7	4 40.13	+16 39.7	1.119	2.100	3.2	19.5
12 17	4 29.21	+24 26.5	0.996	1.961	8.0	16.9	12 17	4 29.92	+17 2.1	1.148	2.108	8.0	19.8
12 27	4 21.34	+24 17.5	1.059	1.982	13.4	17.3	12 27	4 21.88	+17 31.0	1.202	2.116	13.0	20.1
1 6	4 17.24	+24 11.6	1.141	2.003	18.0	17.6	1 6	4 17.03	+18 6.6	1.277	2.125	17.3	20.4
515897	2015 <i>PV</i> ₆₂	12	4.3 106°62	0.8/ 4.0	18		86172	1999 <i>RP</i> ₂₁₁	12	4.3 78°46	4.4/ 5.9	18	
10 28	5 12.80	+21 29.3	1.761	2.568	15.7	21.4	10 28	5 13.43	+35 47.3	2.142	2.912	14.4	19.0
11 7	5 7.82	+21 12.0	1.688	2.575	12.1	21.2	11 7	5 8.19	+36 6.4	2.066	2.922	11.7	18.8
11 17	5 0.14	+20 50.9	1.636	2.582	8.0	21.0	11 17	5 0.33	+36 13.7	2.013	2.932	8.6	18.6
11 27	4 50.57	+20 26.8	1.610	2.589	3.4	20.7	11 27	4 50.65	+36 6.0	1.985	2.942	5.7	18.5
12 7	4 40.24	+20 1.1	1.613	2.597	1.6	20.6	12 7	4 40.26	+35 42.3	1.985	2.952	4.5	18.4
12 17	4 30.43	+19 36.6	1.645	2.603	6.1	20.9	12 17	4 30.37	+35 4.6	2.014	2.962	6.2	18.6
12 27	4 22.30	+19 16.4	1.703	2.610	10.3	21.2	12 27	4 22.13	+34 17.1	2.071	2.971	9.1	18.8
1 6	4 16.66	+19 3.1	1.786	2.617	14.0	21.4	1 6	4 16.32	+33 25.7	2.153	2.981	12.0	19.0
167113	Robertwick	12	4.3 113°19	6.0/ 6.2	18		7602	Yidaeam	12	4.3 187°77	3.2/ 5.6	18	
10 28	5 20.82	+38 40.0	2.111	2.860	15.3	21.1	10 28	5 11.73	+33 34.1	2.464	3.234	12.8	18.0
11 7	5 14.04	+39 30.4	2.043	2.881	12.5	21.0	11 7	5 6.55	+33 38.8	2.375	3.234	10.2	17.8
11 17	5 4.26	+40 7.5	1.998	2.901	9.6	20.8	11 17	4 59.13	+33 33.6	2.309	3.234	7.3	17.6
11 27	4 52.34	+40 26.3	1.978	2.920	7.0	20.7	11 27	4 50.12	+33 16.7	2.269	3.233	4.5	17.4
12 7	4 39.59	+40 24.2	1.986	2.939	6.0	20.7	12 7	4 40.45	+32 47.6	2.259	3.232	3.2	17.3
12 17	4 27.45	+40 1.9	2.023	2.957	7.3	20.8	12 17	4 31.14	+32 8.0	2.279	3.231	5.2	17.5
12 27	4 17.27	+39 24.3	2.089	2.974	9.8	21.0	12 27	4 23.17	+31 21.7	2.327	3.230	8.2	17.7
1 6	4 9.91	+38 38.2	2.179	2.991	12.5	21.2	1 6	4 17.25	+30 33.3	2.402	3.228	11.0	17.8
460487	2014 <i>SE</i> ₃₀₃	12	4.3 16°86	12.2/12.2	16		321466	2009 <i>RM</i> ₄₃	12	4.3 346°54	5.8/ 5.9	17	
10 28													

EPHEMERIDES

12 4.3

12 4.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
419323	2009 <i>WU</i> ₁₀₄	12	4.3 301°85	5°0/ 5.7 18			181397	2006 <i>SF</i> ₉₉	12	4.3 324°47	1°7/ 4.7 18		
10 28	5 12.96	+36 11.4	2.301	3.066	13.7	21.1	10 28	5 11.66	+26 27.4	1.838	2.639	15.3	20.3
11 7	5 7.92	+36 55.3	2.213	3.064	11.2	21.0	11 7	5 7.17	+26 41.1	1.753	2.636	12.0	20.0
11 17	5 0.28	+37 29.4	2.147	3.061	8.5	20.8	11 17	4 59.91	+26 48.9	1.690	2.632	8.1	19.8
11 27	4 50.71	+37 49.8	2.108	3.059	5.9	20.6	11 27	4 50.59	+26 49.2	1.653	2.629	3.9	19.6
12 7	4 40.21	+37 54.0	2.096	3.056	5.0	20.6	12 7	4 40.32	+26 41.3	1.644	2.626	2.0	19.4
12 17	4 29.99	+37 42.2	2.113	3.054	6.5	20.6	12 17	4 30.40	+26 26.5	1.663	2.623	5.9	19.7
12 27	4 21.22	+37 17.5	2.158	3.051	9.2	20.8	12 27	4 22.09	+26 8.1	1.709	2.620	10.0	19.9
1 6	4 14.78	+36 44.8	2.227	3.049	11.9	21.0	1 6	4 16.28	+25 50.0	1.780	2.618	13.7	20.1
33831	2000 <i>EA</i> ₉₈	12	4.3 197°42	17°4/ 3.8 18			449460	2013 <i>LJ</i> ₄	12	4.3 339°99	0°3/ 4.3 17		
10 28	5 18.75	-14 22.1	1.276	2.024	23.5	18.7	10 28	5 13.05	+19 57.3	1.769	2.576	15.6	20.4
11 7	5 13.23	-15 32.1	1.219	2.023	21.2	18.5	11 7	5 8.36	+20 46.5	1.683	2.570	12.2	20.2
11 17	5 4.14	-16 10.3	1.177	2.022	19.1	18.4	11 17	5 0.81	+21 38.4	1.619	2.564	8.1	20.0
11 27	4 52.42	-16 4.5	1.153	2.021	17.7	18.3	11 27	4 51.04	+22 30.6	1.581	2.559	3.5	19.7
12 7	4 39.58	-15 7.8	1.149	2.019	17.4	18.2	12 7	4 40.13	+23 20.8	1.571	2.555	1.4	19.5
12 17	4 27.37	-13 20.8	1.166	2.017	18.5	18.3	12 17	4 29.42	+24 7.1	1.590	2.551	6.1	19.8
12 27	4 17.40	-10 51.6	1.204	2.015	20.6	18.4	12 27	4 20.25	+24 49.4	1.637	2.547	10.5	20.1
1 6	4 10.72	-7 53.4	1.260	2.012	22.9	18.6	1 6	4 13.64	+25 28.9	1.709	2.544	14.3	20.3
149926	2005 <i>SU</i> ₁₂₄	12	4.3 94°90	0°2/ 4.2 18			94203	2001 <i>BF</i> ₂₂	12	4.3 226°03	0°4/ 4.1 18		
10 28	5 14.28	+22 59.2	1.566	2.377	17.1	20.5	10 28	5 10.12	+20 49.5	2.193	2.991	13.3	20.0
11 7	5 9.29	+22 44.3	1.497	2.386	13.3	20.2	11 7	5 5.39	+20 52.7	2.108	2.991	10.3	19.8
11 17	5 1.28	+22 24.0	1.448	2.395	8.8	20.0	11 17	4 58.44	+20 54.2	2.046	2.990	6.8	19.5
11 27	4 51.12	+21 58.6	1.424	2.403	3.8	19.7	11 27	4 49.89	+20 54.0	2.011	2.989	2.9	19.3
12 7	4 40.11	+21 29.7	1.428	2.412	1.5	19.6	12 7	4 40.62	+20 52.4	2.005	2.989	1.2	19.2
12 17	4 29.72	+21 0.2	1.460	2.420	6.5	19.9	12 17	4 31.64	+20 50.6	2.029	2.988	5.2	19.4
12 27	4 21.28	+20 34.2	1.518	2.428	11.1	20.2	12 27	4 23.92	+20 50.2	2.082	2.987	8.8	19.7
1 6	4 15.64	+20 15.1	1.600	2.437	15.0	20.5	1 6	4 18.20	+20 52.9	2.159	2.986	12.0	19.9
451533	2011 <i>WY</i> ₃₄	12	4.3 225°07	1°6/ 3.6 18			204993	1996 <i>EV</i> ₉	12	4.3 255°39	1°4/ 3.9 18		
10 28	5 10.93	+20 29.2	2.130	2.928	13.6	21.2	10 28	5 11.36	+19 8.6	2.023	2.824	14.1	21.2
11 7	5 6.01	+19 44.3	2.039	2.922	10.5	20.9	11 7	5 6.62	+18 55.6	1.927	2.812	11.0	21.0
11 17	4 58.82	+18 54.8	1.972	2.916	7.0	20.7	11 17	4 59.42	+18 41.0	1.854	2.799	7.3	20.7
11 27	4 50.02	+18 2.4	1.932	2.910	3.2	20.5	11 27	4 50.37	+18 25.7	1.807	2.785	3.3	20.4
12 7	4 40.52	+17 10.1	1.922	2.903	2.2	20.4	12 7	4 40.42	+18 10.8	1.789	2.771	2.0	20.3
12 17	4 31.35	+16 21.3	1.942	2.896	5.8	20.6	12 17	4 30.69	+17 58.3	1.801	2.757	5.9	20.5
12 27	4 23.52	+15 39.7	1.990	2.888	9.6	20.8	12 27	4 22.28	+17 50.4	1.841	2.743	10.0	20.8
1 6	4 17.74	+15 7.9	2.063	2.881	12.9	21.0	1 6	4 16.04	+17 49.0	1.905	2.729	13.5	21.0
182046	2000 <i>CL</i> ₁₄₇	12	4.3 247°34	1°4/ 3.9 18			285309	1998 <i>WZ</i> ₃₈	12	4.3 353°26	0°5/ 4.1 18		
10 28	5 11.29	+18 46.8	2.066	2.867	13.9	20.8	10 28	5 10.25	+21 28.1	1.617	2.434	16.4	20.8
11 7	5 6.48	+18 36.7	1.972	2.856	10.8	20.5	11 7	5 6.27	+21 24.8	1.538	2.431	12.8	20.5
11 17	4 59.26	+18 25.4	1.901	2.845	7.2	20.3	11 17	4 59.40	+21 18.6	1.481	2.429	8.4	20.3
11 27	4 50.26	+18 13.9	1.856	2.834	3.3	20.0	11 27	4 50.40	+21 9.5	1.448	2.427	3.6	20.0
12 7	4 40.41	+18 3.2	1.841	2.823	2.0	19.9	12 7	4 40.44	+20 58.5	1.442	2.426	1.5	19.8
12 17	4 30.78	+17 54.9	1.855	2.811	5.8	20.1	12 17	4 30.88	+20 47.4	1.464	2.426	6.4	20.1
12 27	4 22.45	+17 51.0	1.897	2.799	9.7	20.4	12 27	4 23.04	+20 39.1	1.513	2.425	11.0	20.4
1 6	4 16.24	+17 53.2	1.964	2.787	13.2	20.6	1 6	4 17.83	+20 36.1	1.584	2.426	14.9	20.7
302663	2002 <i>SP</i> ₇	12	4.3 51°83	3°4/ 5.1 18			486193	2013 <i>AX</i> ₄₂	12	4.3 28°49	0°5/ 4.2 17		
10 28	5 13.66	+30 21.6	1.808	2.601	15.9	20.4	10 28	5 11.40	+20 9.2	1.302	2.132	18.9	20.5
11 7	5 8.81	+30 49.7	1.730	2.604	12.6	20.2	11 7	5 7.55	+20 25.4	1.245	2.145	14.6	20.3
11 17	5 1.01	+31 9.4	1.673	2.608	8.8	20.0	11 17	5 0.36	+20 41.2	1.207	2.158	9.6	20.0
11 27	4 51.05	+31 17.4	1.641	2.611	5.0	19.8	11 27	4 50.80	+20 55.7	1.193	2.173	4.1	19.7
12 7	4 40.13	+31 12.2	1.637	2.614	3.5	19.7	12 7	4 40.32	+21 8.7	1.205	2.189	1.7	19.6
12 17	4 29.65	+30 54.9	1.662	2.618	6.4	19.9	12 17	4 30.54	+21 20.9	1.243	2.205	7.1	20.0
12 27	4 20.94	+30 29.3	1.713	2.622	10.2	20.1	12 27	4 22.92	+21 34.3	1.305	2.223	11.9	20.3
1 6	4 14.94	+30 0.8	1.789	2.625	13.7	20.3	1 6	4 18.36	+21 50.6	1.390	2.241	16.1	20.6
404382	2013 <i>GK</i> ₃₉	12	4.3 175°17	2°2/ 3.7 18			278155	2007 <i>DA</i> ₂₃	12	4.3 161°38	0°3/ 4.2 18		
10 28	5 10.31	+16 37.6	2.051	2.854	13.9	21.3	10 28	5 14.87	+22 13.3	1.957	2.753	14.7	22.4
11 7	5 5.59	+16 24.8	1.969	2.854	10.8	21.1	11 7	5 9.23	+22 3.0	1.877	2.758	11.4	22.2
11 17	4 58.57	+16 12.7	1.911	2.854	7.2	20.9	11 17	5 1.04	+21 48.7	1.820	2.763	7.5	22.0
11 27	4 49.92	+16 2.4	1.878	2.855	3.6	20.7	11 27	4 51.01	+21 30.7	1.789	2.768	3.2	21.7
12 7	4 40.56	+15 55.5	1.875	2.855	2.6	20.6	12 7	4 40.24	+21 9.8	1.788	2.772	1.3	21.6
12 17	4 31.52	+15 53.3	1.901	2.855	6.0	20.8	12 17	4 29.90	+20 48.1	1.817	2.775	5.7	21.9
12 27	4 23.81	+15 57.2	1.955	2.855	9.6	21.1	12 27	4 21.12	+20 28.7	1.874	2.778	9.7	22.1
1 6	4 18.17	+16 8.2	2.034	2.855	12.9	21.3	1 6	4 14.70	+20 14.3	1.956	2.780	13.2	22.3
475095	2005 <i>UZ</i> ₂₀₂	12	4.3 38°29	2°1/ 3.7 18			46411	2002 <i>GS</i> ₆₈	12	4.3 253°54	7°6/ 2.3 18		
10 28	5 12.06	+19 12.4	1.505	2.324	17.3	21.5	10 28	5 10.65	+3 25.8	1.876	2.667	15.5	18.9
11 7	5 7.70	+18 40.9	1.432	2.326	13.4	21.3	11 7	5 6.04	+2 36.7	1.793	2.657	12.8	18.7
11 17	5 0.31	+18 6.6	1.380	2.328	8.9	21.0	11 17	4 59.01	+1 57.1	1.732	2.648	10.0	18.6
11 27	4 50.74	+17 31.5	1.353	2.331	4.2	20.8	11 27	4 50.19	+1 32.3	1.695	2.638	7.9	18.4
12 7	4 40.26	+16 58.6	1.352	2.334	2.8	20.7	12 7	4 40.53	+1 26.2	1.686	2.627	7.9	18.4
12 17	4 30.32	+16 31.3	1.379	2.336	7.3	21.0	12 17	4 31.13	+1 41.0	1.703	2.617	9.9	18.5
12 27	4 22.26	+16 12.9	1.432	2.339	11.9	21.2	12 27	4 23.08	+2 16.3	1.746	2.606	12.8	18.6
1 6	4 16.97	+16 5.6	1.507	2.342	15.9	21.5	1 6	4 17.19	+3 9.2	1.811	2.596	15.7	18.8
376135	2011 <i>AX</i> ₆₆	12	4.3 5°29	0°0/ 4.1 18			477306	2009 <i>SD</i> ₂₅₇	12	4.3 113°24	0°6/		

EPHEMERIDES

12 4.3

12 4.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
239964	2001 <i>MB</i> ₂	12	4.3	148°56	0°4/ 4.2	18	233645	2008 <i>OO</i> ₁₀	12	4.3	103°79	2°9/ 3.4	18
10 28	5 13.60	+20 2.0	2.203	2.995	13.4	20.9	10 28	5 9.72	+12 53.5	2.485	3.275	12.1	20.9
11 7	5 8.00	+20 17.6	2.122	3.001	10.4	20.7	11 7	5 4.57	+12 39.5	2.416	3.292	9.4	20.7
11 17	5 0.13	+20 32.7	2.065	3.008	6.9	20.5	11 17	4 57.64	+12 28.5	2.371	3.308	6.5	20.6
11 27	4 50.61	+20 46.7	2.035	3.014	3.0	20.2	11 27	4 49.49	+12 21.9	2.354	3.324	3.7	20.4
12 7	4 40.39	+20 59.4	2.036	3.019	1.2	20.1	12 7	4 40.89	+12 21.0	2.367	3.340	3.2	20.4
12 17	4 30.49	+21 10.9	2.067	3.025	5.2	20.4	12 17	4 32.65	+12 26.7	2.410	3.355	5.5	20.6
12 27	4 21.93	+21 22.7	2.127	3.030	8.8	20.6	12 27	4 25.52	+12 39.4	2.482	3.371	8.4	20.8
1 6	4 15.43	+21 36.2	2.212	3.034	12.0	20.9	1 6	4 20.08	+12 59.2	2.580	3.385	11.0	21.0
254858	2005 <i>RG</i> ₄₄	12	4.3	8°17	8°5/ 5.9	17	414613	2009 <i>UH</i> ₁₄₄	12	4.3	354°96	1°8/ 3.6	17
10 28	5 17.59	+41 24.5	1.854	2.611	16.8	20.3	10 28	5 7.57	+19 23.4	1.944	2.755	14.2	20.8
11 7	5 12.60	+42 52.4	1.777	2.611	14.3	20.1	11 7	5 3.63	+18 49.5	1.863	2.753	11.0	20.5
11 17	5 4.00	+44 7.2	1.720	2.612	11.6	20.0	11 17	4 57.38	+18 12.8	1.804	2.751	7.3	20.3
11 27	4 52.54	+45 1.0	1.687	2.613	9.3	19.8	11 27	4 49.48	+17 35.1	1.772	2.750	3.4	20.1
12 7	4 39.62	+45 28.0	1.680	2.615	8.5	19.8	12 7	4 40.88	+16 59.0	1.768	2.749	2.3	20.0
12 17	4 27.02	+45 26.9	1.699	2.617	9.7	19.9	12 17	4 32.64	+16 27.5	1.792	2.748	6.0	20.2
12 27	4 16.52	+45 1.9	1.743	2.619	12.0	20.0	12 27	4 25.77	+16 3.4	1.844	2.748	9.9	20.5
1 6	4 9.31	+44 21.0	1.810	2.621	14.7	20.2	1 6	4 21.01	+15 48.7	1.920	2.748	13.2	20.7
65641	1981 <i>DR</i> ₃	12	4.3	24°80	3°7/ 5.6	18	215902	2005 <i>GL</i> ₁₆₉	12	4.3	156°00	1°4/ 4.7	18
10 28	5 11.82	+32 37.5	1.308	2.123	19.6	18.0	10 28	5 13.26	+26 8.5	2.015	2.808	14.5	20.7
11 7	5 8.17	+32 29.2	1.246	2.133	15.6	17.8	11 7	5 8.10	+26 20.2	1.933	2.811	11.3	20.5
11 17	5 0.88	+32 4.7	1.203	2.143	10.9	17.5	11 17	5 0.37	+26 26.5	1.873	2.814	7.6	20.3
11 27	4 51.04	+31 21.8	1.182	2.154	6.1	17.3	11 27	4 50.78	+26 25.8	1.840	2.816	3.6	20.0
12 7	4 40.28	+30 21.6	1.187	2.166	3.8	17.2	12 7	4 40.38	+26 17.8	1.836	2.818	1.7	19.9
12 17	4 30.40	+29 9.8	1.218	2.179	7.3	17.5	12 17	4 30.36	+26 3.7	1.861	2.820	5.5	20.1
12 27	4 22.96	+27 54.7	1.273	2.193	11.9	17.8	12 27	4 21.85	+25 46.5	1.914	2.822	9.3	20.4
1 6	4 18.83	+26 44.6	1.351	2.208	16.1	18.0	1 6	4 15.68	+25 29.7	1.993	2.824	12.7	20.6
108527	2001 <i>LG</i> ₂	12	4.3	179°03	0°7/ 4.5	18	267872	2003 <i>WD</i> ₁₅₇	12	4.3	52°71	8°0/ 2.4	18
10 28	5 15.92	+25 5.4	1.862	2.656	15.4	20.9	10 28	5 8.76	+ 0 25.3	1.988	2.771	15.0	20.0
11 7	5 10.30	+25 1.2	1.778	2.658	12.1	20.7	11 7	5 4.07	- 0 28.9	1.941	2.795	12.4	19.9
11 17	5 1.89	+24 50.9	1.717	2.659	8.0	20.5	11 17	4 57.37	- 1 10.3	1.917	2.820	9.9	19.8
11 27	4 51.44	+24 33.5	1.682	2.660	3.6	20.2	11 27	4 49.37	- 1 34.4	1.917	2.844	8.3	19.8
12 7	4 40.11	+24 9.6	1.676	2.659	1.4	20.0	12 7	4 40.96	- 1 38.3	1.944	2.869	8.2	19.8
12 17	4 29.21	+23 41.3	1.699	2.659	5.9	20.3	12 17	4 33.07	- 1 21.3	1.997	2.894	9.6	19.9
12 27	4 20.00	+23 12.5	1.751	2.657	10.1	20.6	12 27	4 26.53	- 0 45.0	2.075	2.919	11.8	20.1
1 6	4 13.35	+22 47.2	1.827	2.656	13.8	20.8	1 6	4 21.93	+ 0 7.1	2.176	2.945	13.9	20.3
85233	1993 <i>FA</i> ₅₃	12	4.3	208°56	3°0/ 3.4	18	411535	2011 <i>BQ</i> ₁₁₄	12	4.3	58°09	2°8/ 5.4	18
10 28	5 13.59	+15 48.4	1.880	2.681	15.0	20.9	10 28	5 11.78	+31 47.4	2.050	2.835	14.5	20.9
11 7	5 8.38	+15 20.5	1.793	2.676	11.8	20.7	11 7	5 6.86	+31 44.0	1.977	2.847	11.5	20.8
11 17	5 0.58	+14 52.8	1.729	2.671	8.0	20.5	11 17	4 59.45	+31 29.9	1.926	2.859	8.0	20.6
11 27	4 50.88	+14 27.5	1.691	2.665	4.2	20.2	11 27	4 50.33	+31 3.9	1.901	2.871	4.5	20.4
12 7	4 40.31	+14 6.8	1.681	2.659	3.4	20.2	12 7	4 40.59	+30 26.3	1.905	2.883	2.9	20.3
12 17	4 30.06	+13 53.1	1.701	2.652	6.9	20.4	12 17	4 31.38	+29 39.8	1.938	2.895	5.5	20.5
12 27	4 21.29	+13 48.6	1.749	2.644	10.9	20.6	12 27	4 23.78	+28 49.0	1.999	2.907	8.9	20.7
1 6	4 14.85	+13 54.2	1.820	2.636	14.4	20.8	1 6	4 18.51	+27 58.9	2.085	2.920	12.1	21.0
164714	1998 <i>FN</i> ₀₁	12	4.3	281°96	7°3/ 4.6	17	332250	2006 <i>KH</i> ₉₀	12	4.3	286°47	4°3/ 3.4	17
10 28	5 19.97	+31 7.0	1.106	1.925	22.2	19.7	10 28	5 9.39	+ 8 4.8	2.319	3.108	12.9	20.3
11 7	5 16.47	+32 40.6	1.020	1.907	18.3	19.4	11 7	5 4.65	+ 8 0.7	2.231	3.102	10.3	20.2
11 17	5 7.91	+34 11.6	0.951	1.888	13.6	19.1	11 17	4 57.89	+ 8 3.6	2.166	3.096	7.5	20.0
11 27	4 54.75	+35 29.3	0.903	1.869	9.0	18.7	11 27	4 49.68	+ 8 15.6	2.128	3.090	5.0	19.8
12 7	4 38.68	+36 22.4	0.879	1.850	7.5	18.6	12 7	4 40.80	+ 8 37.8	2.120	3.084	4.6	19.8
12 17	4 22.41	+36 44.7	0.878	1.830	11.2	18.7	12 17	4 32.11	+ 9 10.5	2.140	3.078	6.7	19.9
12 27	4 8.95	+36 39.8	0.900	1.811	16.6	18.9	12 27	4 24.51	+ 9 53.2	2.189	3.072	9.6	20.1
1 6	4 0.39	+36 18.6	0.940	1.792	21.8	19.2	1 6	4 18.68	+10 44.4	2.263	3.066	12.4	20.2
449413	2013 <i>HZ</i> ₂₅	12	4.3	144°36	1°8/ 3.9	18	294265	2007 <i>UQ</i> ₉₄	12	4.3	80°74	0°7/ 4.1	16
10 28	5 12.63	+15 31.4	2.318	3.108	12.9	21.0	10 28	5 19.50	+22 51.1	1.314	2.128	19.6	21.2
11 7	5 7.10	+15 45.7	2.237	3.114	10.0	20.9	11 7	5 13.45	+22 23.5	1.265	2.156	15.1	21.0
11 17	4 59.47	+16 2.7	2.179	3.120	6.7	20.7	11 17	5 3.99	+21 49.8	1.235	2.183	9.9	20.8
11 27	4 50.33	+16 22.4	2.150	3.126	3.2	20.5	11 27	4 52.27	+21 11.0	1.230	2.209	4.2	20.5
12 7	4 40.54	+16 44.9	2.151	3.131	2.1	20.4	12 7	4 39.93	+20 30.0	1.251	2.235	1.8	20.5
12 17	4 31.04	+17 10.1	2.183	3.136	5.3	20.6	12 17	4 28.67	+19 50.9	1.301	2.261	7.2	20.9
12 27	4 22.74	+17 38.2	2.244	3.141	8.7	20.8	12 27	4 19.89	+19 18.7	1.376	2.286	12.0	21.2
1 6	4 16.34	+18 9.5	2.331	3.146	11.7	21.0	1 6	4 14.37	+18 56.6	1.473	2.311	16.1	21.5
404763	2014 <i>JC</i> ₄₁	12	4.3	179°09	0°3/ 4.2	18	414324	2008 <i>SS</i> ₈	12	4.3	66°30	4°7/ 6.1	18
10 28	5 12.74	+21 18.0	2.017	2.815	14.3	21.9	10 28	5 13.76	+36 37.1	2.204	2.969	14.2	21.1
11 7	5 7.61	+21 21.0	1.933	2.816	11.1	21.7	11 7	5 8.37	+37 3.4	2.137	2.988	11.5	20.9
11 17	5 0.02	+21 21.8	1.872	2.817	7.3	21.4	11 17	5 0.44	+37 17.7	2.091	3.006	8.6	20.8
11 27	4 50.63	+21 20.2	1.838	2.817	3.2	21.2	11 27	4 50.77	+37 16.9	2.071	3.024	5.9	20.6
12 7	4 40.44	+21 16.5	1.833	2.817	1.3	21.0	12 7	4 40.45	+36 59.9	2.079	3.042	4.7	20.6
12 17	4 30.58	+21 11.8	1.858	2.817	5.5	21.3	12 17	4 30.67	+36 28.2	2.116	3.060	6.2	20.7
12 27	4 22.15	+21 8.3	1.910	2.816	9.5	21.6	12 27	4 22.54	+35 46.1	2.181	3.078	8.9	20.9
1 6	4 15.96	+21 8.1	1.988	2.815	12.9	21.8	1 6	4 16.79	+34 59.2	2.271	3.097	11.6	21.1
267950	2004 <i>ED</i> ₈₀	12	4.3	214°52	2°2/ 4.8	18	242104	2002 <i>VR</i> ₁₂	12	4.3	60°64	2°2/ 4.8	

EPHEMERIDES

12 4.3

12 4.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
335433	2005 <i>UW</i> ₁₆₃	12	4.3 326°75	0°9/ 4.5	18	R	267794	2003 <i>SM</i> ₂₄₆	12	4.3 280°07	3°5/ 5.3	18	
10 28	5 10.16	+24 58.5	1.323	2.152	18.7	20.8	10 28	5 11.95	+31 51.0	2.292	3.070	13.4	20.3
11 7	5 7.09	+24 55.8	1.240	2.138	14.8	20.5	11 7	5 7.07	+32 23.7	2.202	3.066	10.7	20.1
11 17	5 0.47	+24 45.8	1.176	2.126	9.9	20.2	11 17	4 59.74	+32 48.8	2.134	3.061	7.7	19.9
11 27	4 51.06	+24 27.4	1.135	2.114	4.5	19.9	11 27	4 50.58	+33 3.5	2.092	3.057	4.7	19.7
12 7	4 40.28	+24 1.1	1.118	2.103	1.7	19.7	12 7	4 40.57	+33 6.2	2.079	3.052	3.5	19.7
12 17	4 29.86	+23 29.9	1.128	2.092	7.4	20.0	12 17	4 30.79	+32 57.2	2.096	3.048	5.7	19.8
12 27	4 21.52	+22 58.9	1.162	2.082	12.8	20.3	12 27	4 22.37	+32 39.2	2.141	3.043	8.8	20.0
1 6	4 16.44	+22 33.4	1.217	2.073	17.5	20.5	1 6	4 16.12	+32 16.2	2.211	3.039	11.8	20.2
356112	2009 <i>FY</i> ₂₁	12	4.3 286°67	6°3/ 2.2	18		291903	2006 <i>QM</i> ₈	12	4.3 99°99	3°7/ 3.3	18	
10 28	5 9.04	+ 8 19.7	1.829	2.634	15.2	20.8	10 28	5 10.53	+13 29.2	1.874	2.680	14.9	20.5
11 7	5 4.87	+ 7 19.4	1.747	2.626	12.3	20.5	11 7	5 5.93	+12 58.9	1.798	2.682	11.7	20.3
11 17	4 58.28	+ 6 23.9	1.687	2.617	9.2	20.3	11 17	4 58.91	+12 31.1	1.744	2.685	8.1	20.1
11 27	4 49.92	+ 5 38.3	1.653	2.609	6.7	20.2	11 27	4 50.19	+12 8.4	1.716	2.687	4.7	19.9
12 7	4 40.75	+ 5 7.1	1.645	2.601	6.7	20.2	12 7	4 40.74	+11 53.4	1.716	2.689	4.1	19.9
12 17	4 31.88	+ 4 53.4	1.665	2.592	9.1	20.3	12 17	4 31.67	+11 48.1	1.745	2.691	7.1	20.1
12 27	4 24.39	+ 4 58.5	1.710	2.584	12.3	20.5	12 27	4 24.04	+11 53.7	1.800	2.694	10.7	20.3
1 6	4 19.07	+ 5 21.1	1.778	2.576	15.4	20.7	1 6	4 18.61	+12 10.2	1.880	2.696	14.0	20.5
96345	1997 <i>RF</i> ₅	12	4.3 123°51	6°4/ 7.2	18		409712	2006 <i>BB</i> ₁₇₄	12	4.3 178°72	2°8/ 3.5	18	
10 28	5 16.86	+44 35.9	2.705	3.422	13.0	19.8	10 28	5 9.11	+12 57.7	2.553	3.344	11.8	21.1
11 7	5 10.67	+45 15.3	2.628	3.434	11.0	19.7	11 7	5 4.22	+12 45.7	2.469	3.345	9.2	20.9
11 17	5 1.95	+45 40.8	2.573	3.446	8.9	19.5	11 17	4 57.52	+12 36.5	2.408	3.345	6.4	20.7
11 27	4 51.44	+45 48.3	2.543	3.457	7.2	19.4	11 27	4 49.53	+12 31.6	2.375	3.346	3.6	20.5
12 7	4 40.22	+45 35.7	2.541	3.469	6.4	19.4	12 7	4 40.98	+12 32.1	2.372	3.346	3.1	20.5
12 17	4 29.46	+45 3.7	2.568	3.479	7.1	19.5	12 17	4 32.68	+12 39.1	2.400	3.346	5.5	20.7
12 27	4 20.27	+44 16.2	2.622	3.490	8.8	19.6	12 27	4 25.40	+12 53.1	2.456	3.345	8.4	20.9
1 6	4 13.44	+43 18.9	2.702	3.500	10.7	19.8	1 6	4 19.75	+13 14.1	2.538	3.344	11.1	21.0
206458	2003 <i>TM</i>	12	4.3 30°75	6°6/ 6.7	18		240473	2004 <i>BF</i> ₆₂	12	4.3 128°55	5°4/ 6.8	18	
10 28	5 14.28	+38 5.6	1.358	2.155	20.0	19.6	10 28	5 18.69	+40 27.8	2.336	3.076	14.2	20.7
11 7	5 10.25	+38 26.6	1.299	2.168	16.3	19.4	11 7	5 12.11	+40 42.4	2.260	3.091	11.7	20.5
11 17	5 2.35	+38 28.1	1.259	2.182	12.3	19.2	11 17	5 2.88	+40 42.2	2.206	3.105	9.0	20.4
11 27	4 51.72	+38 5.0	1.240	2.196	8.4	19.1	11 27	4 51.83	+40 23.9	2.178	3.119	6.5	20.3
12 7	4 40.15	+37 16.2	1.246	2.212	6.6	19.0	12 7	4 40.16	+39 46.2	2.178	3.132	5.4	20.2
12 17	4 29.55	+36 6.2	1.277	2.228	8.6	19.2	12 17	4 29.12	+38 51.5	2.208	3.145	6.6	20.3
12 27	4 21.58	+34 44.1	1.334	2.246	12.2	19.4	12 27	4 19.87	+37 44.9	2.267	3.157	9.0	20.5
1 6	4 17.14	+33 20.2	1.412	2.263	15.8	19.7	1 6	4 13.14	+36 33.0	2.352	3.168	11.5	20.7
223979	2004 <i>YR</i> ₁₄	12	4.3 331°77	0°6/ 4.5	17		518729	2009 <i>FC</i> ₈₀	12	4.3 204°23	2°1/ 3.5	18	
10 28	5 8.29	+24 11.5	1.907	2.715	14.6	20.5	10 28	5 10.95	+17 28.7	2.239	3.035	13.1	22.3
11 7	5 4.50	+24 12.6	1.816	2.704	11.4	20.3	11 7	5 5.94	+16 59.7	2.150	3.031	10.2	22.1
11 17	4 58.16	+24 9.0	1.747	2.693	7.6	20.0	11 17	4 58.80	+16 29.4	2.085	3.027	6.8	21.9
11 27	4 49.92	+24 0.3	1.704	2.683	3.4	19.7	11 27	4 50.12	+15 59.6	2.047	3.023	3.4	21.7
12 7	4 40.77	+23 46.8	1.689	2.673	1.3	19.6	12 7	4 40.76	+15 32.3	2.039	3.018	2.5	21.6
12 17	4 31.87	+23 30.1	1.703	2.664	5.6	19.8	12 17	4 31.70	+15 9.7	2.062	3.013	5.8	21.8
12 27	4 24.40	+23 13.1	1.743	2.656	9.8	20.1	12 27	4 23.86	+14 54.1	2.112	3.008	9.2	22.0
1 6	4 19.21	+22 58.9	1.808	2.648	13.4	20.3	1 6	4 17.94	+14 46.9	2.188	3.002	12.4	22.2
269178	2008 <i>FL</i> ₁₁₇	12	4.3 317°30	2°1/ 3.7	18		11466	Katharinaotto	12	4.3 69°86	2°9/ 5.2	18	
10 28	5 10.90	+20 4.0	1.315	2.145	18.7	21.1	10 28	5 23.20	+30 34.8	1.344	2.142	20.1	18.4
11 7	5 7.48	+19 31.2	1.234	2.134	14.7	20.8	11 7	5 16.30	+30 31.2	1.301	2.180	15.7	18.2
11 17	5 0.61	+18 53.8	1.173	2.124	9.8	20.5	11 17	5 5.81	+30 14.2	1.278	2.216	10.7	18.0
11 27	4 51.10	+18 13.8	1.135	2.115	4.5	20.2	11 27	4 53.04	+29 41.6	1.280	2.253	5.5	17.8
12 7	4 40.33	+17 34.5	1.123	2.105	2.8	20.1	12 7	4 39.82	+28 54.7	1.308	2.289	3.1	17.8
12 17	4 29.97	+17 0.4	1.137	2.097	8.1	20.4	12 17	4 27.93	+27 58.8	1.365	2.324	7.0	18.1
12 27	4 21.64	+16 36.0	1.175	2.088	13.3	20.6	12 27	4 18.79	+27 1.4	1.447	2.359	11.4	18.5
1 6	4 16.46	+16 24.5	1.234	2.080	17.9	20.9	1 6	4 13.11	+26 9.3	1.553	2.393	15.2	18.8
264370	2000 <i>DZ</i> ₈	12	4.3 302°61	2°3/ 3.6	18		492774	2014 <i>QF</i> ₂₀₅	12	4.3 335°12	3°4/ 3.3	18	
10 28	5 8.03	+16 53.4	2.094	2.900	13.5	21.0	10 28	5 8.37	+14 39.5	1.945	2.754	14.3	21.5
11 7	5 4.05	+16 32.4	1.992	2.878	10.6	20.8	11 7	5 4.25	+14 5.9	1.863	2.750	11.2	21.2
11 17	4 57.76	+16 10.9	1.912	2.856	7.2	20.5	11 17	4 57.83	+13 33.5	1.804	2.747	7.7	21.0
11 27	4 49.74	+15 50.6	1.858	2.835	3.6	20.3	11 27	4 49.75	+13 4.7	1.771	2.743	4.3	20.8
12 7	4 40.84	+15 33.4	1.834	2.813	2.7	20.2	12 7	4 40.93	+12 42.3	1.766	2.740	3.7	20.8
12 17	4 32.06	+15 21.4	1.838	2.791	6.2	20.3	12 17	4 32.44	+12 28.6	1.789	2.737	6.8	21.0
12 27	4 24.45	+15 16.5	1.869	2.770	10.0	20.5	12 27	4 25.27	+12 25.4	1.839	2.735	10.4	21.2
1 6	4 18.82	+15 20.0	1.925	2.749	13.4	20.7	1 6	4 20.19	+12 33.1	1.913	2.732	13.7	21.4
442270	2011 <i>QK</i> ₅₄	12	4.3 106°17	0°2/ 4.2	18		389584	2011 <i>EX</i> ₇₁	12	4.3 296°62	1°4/ 4.0	18	
10 28	5 14.87	+23 8.0	2.025	2.817	14.4	21.9	10 28	5 12.06	+19 34.3	1.439	2.261	17.8	21.6
11 7	5 8.96	+22 49.6	1.959	2.839	11.1	21.7	11 7	5 8.31	+19 26.8	1.347	2.243	14.0	21.3
11 17	5 0.69	+22 26.6	1.917	2.860	7.3	21.5	11 17	5 1.21	+19 17.6	1.276	2.225	9.4	21.0
11 27	4 50.85	+21 59.1	1.902	2.880	3.1	21.3	11 27	4 51.44	+19 7.6	1.228	2.207	4.2	20.6
12 7	4 40.49	+21 28.9	1.916	2.900	1.2	21.2	12 7	4 40.26	+18 57.7	1.206	2.189	2.3	20.5
12 17	4 30.72	+20 58.3	1.961	2.920	5.3	21.5	12 17	4 29.24	+18 50.2	1.211	2.172	7.6	20.7
12 27	4 22.54	+20 30.6	2.034	2.938	9.1	21.8	12 27	4 20.06	+18 48.0	1.242	2.155	12.8	21.0
1 6	4 16.61	+20 8.5	2.133	2.956	12.3	22.0	1 6	4 13.89	+18 53.7	1.293	2.138	17.4	21.2
208101	2000 <i>AW</i> ₂₄₆	12	4.3 294°89	1°5/ 3.9	18		298485	2003 <i>UT</i> ₂₆₁	12	4.3 186°09	4°1/ 5.2	18	

EPHEMERIDES

12 4.3

12 4.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
421078	2013 <i>QF</i> ₃₇	12 4.3 159°91	3°6/ 5.7 17				77434	2001 <i>GY</i> ₇	12 4.3 289°24	3°4/ 3.8 18			
10 28	5 11.69	+34 19.1	2.539	3.305	12.5	21.8	10 28	5 13.46	+14 17.4	1.455	2.273	17.9	19.7
11 7	5 6.58	+34 39.1	2.452	3.307	10.1	21.6	11 7	5 9.12	+14 11.4	1.374	2.266	14.1	19.5
11 17	4 59.25	+34 49.8	2.388	3.308	7.4	21.4	11 17	5 1.57	+14 9.8	1.313	2.259	9.6	19.2
11 27	4 50.33	+34 48.8	2.350	3.310	4.7	21.3	11 27	4 51.56	+14 14.4	1.276	2.252	5.1	18.9
12 7	4 40.73	+34 35.3	2.342	3.311	3.7	21.2	12 7	4 40.34	+14 26.8	1.266	2.245	3.9	18.8
12 17	4 31.44	+34 10.2	2.364	3.312	5.4	21.3	12 17	4 29.43	+14 47.7	1.283	2.238	8.0	19.1
12 27	4 23.45	+33 36.6	2.414	3.313	8.1	21.5	12 27	4 20.36	+15 17.6	1.325	2.231	12.8	19.3
1 6	4 17.46	+32 58.7	2.490	3.314	10.7	21.7	1 6	4 14.18	+15 56.3	1.389	2.224	17.0	19.6
378166	2006 <i>WV</i> ₄₅	12 4.3 183°92	2°2/ 3.8 18				51729	2001 <i>KA</i> ₄₄	12 4.3 86°21	3°3/ 3.4 18			
10 28	5 14.94	+17 41.8	1.700	2.505	16.2	21.8	10 28	5 9.28	+11 34.4	2.414	3.205	12.4	19.1
11 7	5 9.70	+17 24.1	1.620	2.506	12.6	21.6	11 7	5 4.34	+11 21.9	2.345	3.221	9.7	18.9
11 17	5 1.61	+17 6.0	1.561	2.506	8.5	21.3	11 17	4 57.58	+11 13.4	2.300	3.236	6.7	18.8
11 27	4 51.44	+16 48.6	1.528	2.505	4.0	21.1	11 27	4 49.58	+11 10.6	2.283	3.251	4.0	18.6
12 7	4 40.33	+16 33.9	1.524	2.505	2.7	21.0	12 7	4 41.11	+11 14.6	2.296	3.266	3.5	18.6
12 17	4 29.64	+16 23.9	1.548	2.503	6.9	21.3	12 17	4 32.99	+11 26.2	2.338	3.281	5.8	18.8
12 27	4 20.64	+16 20.9	1.599	2.501	11.2	21.5	12 27	4 26.00	+11 45.7	2.409	3.296	8.6	19.0
1 6	4 14.24	+16 26.3	1.674	2.499	15.0	21.7	1 6	4 20.71	+12 12.5	2.505	3.310	11.2	19.2
372875	2010 <i>WC</i> ₅₂	12 4.3 347°91	1°3/ 4.6 18				499842	2011 <i>EN</i> ₁₄	12 4.3 241°76	8°3/ 1.7 18			
10 28	5 10.38	+24 58.6	1.114	1.954	20.7	20.9	10 28	5 8.87	- 7 12.7	2.780	3.514	12.3	21.5
11 7	5 7.79	+25 8.8	1.042	1.947	16.3	20.6	11 7	5 3.93	- 7 49.5	2.695	3.502	10.7	21.4
11 17	5 1.21	+25 12.1	0.989	1.941	11.0	20.3	11 17	4 57.31	- 8 13.2	2.631	3.490	9.3	21.2
11 27	4 51.49	+25 6.7	0.957	1.936	5.1	20.0	11 27	4 49.49	- 8 19.9	2.593	3.477	8.4	21.2
12 7	4 40.29	+24 52.3	0.949	1.933	2.1	19.8	12 7	4 41.13	- 8 6.7	2.582	3.464	8.4	21.1
12 17	4 29.61	+24 31.2	0.964	1.930	8.0	20.1	12 17	4 32.94	- 7 33.0	2.597	3.451	9.4	21.2
12 27	4 21.40	+24 8.9	1.003	1.928	13.8	20.4	12 27	4 25.64	- 6 39.6	2.639	3.437	10.9	21.3
1 6	4 16.90	+23 50.9	1.062	1.927	18.8	20.7	1 6	4 19.80	- 5 29.7	2.704	3.423	12.7	21.4
354622	2005 <i>EN</i> ₁₅₇	12 4.3 4°04	4°8/ 2.9 18				266024	2006 <i>FF</i> ₃₈	12 4.3 217°88	0°6/ 4.1 18			
10 28	5 9.65	+12 39.3	1.657	2.472	16.1	21.3	10 28	5 9.17	+20 49.2	2.631	3.421	11.5	21.3
11 7	5 5.56	+11 49.1	1.583	2.472	12.7	21.1	11 7	5 4.37	+20 43.7	2.537	3.416	8.9	21.1
11 17	4 58.83	+11 1.4	1.531	2.472	9.0	20.9	11 17	4 57.70	+20 36.3	2.468	3.411	5.9	20.9
11 27	4 50.22	+10 20.2	1.504	2.472	5.6	20.7	11 27	4 49.68	+20 27.2	2.427	3.405	2.6	20.7
12 7	4 40.81	+ 9 49.6	1.503	2.473	5.2	20.7	12 7	4 41.06	+20 17.0	2.416	3.399	1.2	20.5
12 17	4 31.82	+ 9 32.7	1.530	2.473	8.3	20.9	12 17	4 32.65	+20 7.1	2.436	3.393	4.5	20.8
12 27	4 24.42	+ 9 31.2	1.583	2.475	12.0	21.1	12 27	4 25.26	+19 59.0	2.485	3.387	7.7	21.0
1 6	4 19.41	+ 9 44.8	1.658	2.476	15.5	21.3	1 6	4 19.53	+19 54.4	2.560	3.380	10.6	21.2
199626	2006 <i>FV</i> ₄₉	12 4.3 186°43	2°5/ 3.3 18				358701	2008 <i>AU</i> ₆₄	12 4.3 205°52	3°1/ 3.2 18			
10 28	5 7.75	+13 57.1	3.008	3.794	10.3	21.6	10 28	5 10.32	+13 12.4	2.549	3.337	11.9	21.7
11 7	5 2.92	+13 34.3	2.919	3.794	8.0	21.5	11 7	5 5.21	+12 46.4	2.457	3.331	9.3	21.5
11 17	4 56.55	+13 12.8	2.856	3.793	5.5	21.3	11 17	4 58.23	+12 22.2	2.389	3.326	6.5	21.3
11 27	4 49.12	+12 54.1	2.821	3.791	3.1	21.2	11 27	4 49.92	+12 1.7	2.350	3.319	3.8	21.1
12 7	4 41.23	+12 39.5	2.817	3.790	2.7	21.1	12 7	4 41.00	+11 46.8	2.341	3.312	3.3	21.1
12 17	4 33.54	+12 30.4	2.843	3.787	4.8	21.3	12 17	4 32.29	+11 39.0	2.362	3.305	5.8	21.2
12 27	4 26.71	+12 27.9	2.899	3.785	7.4	21.4	12 27	4 24.61	+11 39.5	2.412	3.297	8.7	21.4
1 6	4 21.26	+12 32.3	2.982	3.782	9.8	21.6	1 6	4 18.59	+11 48.6	2.488	3.288	11.5	21.6
265456	2004 <i>XU</i> ₁₆₇	12 4.3 140°93	0°2/ 4.3 18				103304	2000 <i>AF</i> ₅₃	12 4.3 297°58	0°7/ 4.6 18			
10 28	5 10.25	+21 20.7	2.503	3.294	12.0	21.0	10 28	5 11.59	+26 50.7	1.724	2.530	16.0	19.8
11 7	5 5.23	+21 27.8	2.420	3.299	9.3	20.8	11 7	5 7.36	+26 21.4	1.632	2.518	12.6	19.5
11 17	4 58.25	+21 33.1	2.361	3.304	6.1	20.6	11 17	5 0.23	+25 41.9	1.561	2.506	8.5	19.2
11 27	4 49.89	+21 36.4	2.330	3.308	2.6	20.4	11 27	4 50.92	+24 52.0	1.515	2.494	3.8	18.9
12 7	4 40.94	+21 38.0	2.329	3.313	1.0	20.3	12 7	4 40.62	+23 53.8	1.498	2.482	1.4	18.7
12 17	4 32.26	+21 38.5	2.359	3.317	4.6	20.6	12 17	4 30.68	+22 51.2	1.508	2.470	6.2	19.0
12 27	4 24.70	+21 39.4	2.417	3.321	7.8	20.8	12 27	4 22.45	+21 50.4	1.546	2.458	10.8	19.3
1 6	4 18.91	+21 42.4	2.503	3.325	10.7	21.0	1 6	4 16.85	+20 56.6	1.608	2.447	14.8	19.5
310599	2001 <i>WT</i> ₄₅	12 4.3 339°89	0°2/ 4.4 18				328763	2009 <i>US</i> ₉₆	12 4.3 10°55	1°4/ 3.9 18			
10 28	5 9.57	+24 48.8	1.746	2.556	15.6	20.6	10 28	5 8.59	+19 20.0	1.951	2.761	14.3	21.2
11 7	5 5.63	+24 24.9	1.662	2.551	12.2	20.4	11 7	5 4.47	+19 4.3	1.873	2.762	11.1	21.0
11 17	4 58.97	+23 53.6	1.599	2.546	8.1	20.1	11 17	4 58.00	+18 47.0	1.817	2.763	7.3	20.7
11 27	4 50.31	+23 15.3	1.562	2.541	3.5	19.8	11 27	4 49.87	+18 29.3	1.787	2.765	3.3	20.5
12 7	4 40.79	+22 31.8	1.553	2.537	1.3	19.7	12 7	4 41.02	+18 12.6	1.785	2.768	2.0	20.4
12 17	4 31.67	+21 46.6	1.571	2.533	6.0	20.0	12 17	4 32.53	+17 58.9	1.812	2.770	5.8	20.7
12 27	4 24.17	+21 4.3	1.617	2.530	10.4	20.2	12 27	4 25.43	+17 50.3	1.867	2.773	9.6	20.9
1 6	4 19.15	+20 28.9	1.686	2.527	14.2	20.5	1 6	4 20.46	+17 48.4	1.946	2.777	13.0	21.1
215617	2003 <i>SW</i> ₁₂₈	12 4.3 65°40	1°1/ 4.0 18				474834	2005 <i>SF</i> ₆₃	12 4.3 66°17	0°4/ 4.2 16			
10 28	5 16.17	+21 30.7	1.258	2.082	19.8	20.4	10 28	5 16.17	+22 30.6	1.388	2.205	18.6	21.9
11 7	5 11.20	+21 8.8	1.205	2.102	15.3	20.2	11 7	5 10.93	+22 19.0	1.335	2.227	14.4	21.7
11 17	5 2.74	+20 42.5	1.172	2.121	10.0	19.9	11 17	5 2.45	+22 2.6	1.302	2.250	9.4	21.5
11 27	4 51.89	+20 12.9	1.162	2.141	4.3	19.7	11 27	4 51.77	+21 41.7	1.293	2.272	4.0	21.2
12 7	4 40.26	+19 42.5	1.178	2.161	2.1	19.6	12 7	4 40.39	+21 17.9	1.311	2.295	1.6	21.1
12 17	4 29.57	+19 14.9	1.220	2.181	7.5	20.0	12 17	4 29.89	+20 54.2	1.356	2.318	6.8	21.5
12 27	4 21.28	+18 54.2	1.288	2.201	12.4	20.3	12 27	4 21.62	+20 34.6	1.428	2.340	11.5	21.8
1 6	4 16.24	+18 43.3	1.377	2.221	16.6	20.6	1 6	4 16.39	+20 22.1	1.522	2.363	15.4	22.1
227036	2005 <i>AR</i> ₄₅	12 4.3 88°56	11°3/ 9.2 17				430008	2013 <i>QP</i> ₇₄	12 4.3 79°47	2°8/ 3.7			

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12 4.3

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
226442	2003 <i>SE</i> ₄₉		12 4.3 69°14	0.7/ 4.1	17		333179	2012 <i>DZ</i> ₅₂		12 4.3 11°75	2.4/ 3.9	18	
10 28	5 9.92	+21 25.6	2.161	2.961	13.4	20.8	10 28	5 10.93	+19 0.4	1.062	1.908	21.1	21.1
11 7	5 5.14	+21 6.4	2.092	2.975	10.3	20.6	11 7	5 8.01	+18 38.6	1.001	1.909	16.5	20.8
11 17	4 58.24	+20 44.0	2.046	2.990	6.8	20.4	11 17	5 1.21	+18 15.0	0.957	1.912	11.0	20.5
11 27	4 49.91	+20 19.3	2.027	3.005	2.9	20.2	11 27	4 51.49	+17 51.8	0.935	1.915	5.1	20.2
12 7	4 41.06	+19 53.9	2.037	3.020	1.4	20.1	12 7	4 40.55	+17 31.9	0.937	1.919	3.1	20.1
12 17	4 32.65	+19 29.8	2.077	3.035	5.1	20.4	12 17	4 30.30	+17 18.7	0.962	1.924	8.7	20.4
12 27	4 25.59	+19 9.5	2.146	3.050	8.6	20.7	12 27	4 22.53	+17 15.7	1.010	1.930	14.3	20.8
1 6	4 20.50	+18 55.0	2.239	3.065	11.7	20.9	1 6	4 18.33	+17 24.3	1.078	1.937	19.0	21.1
150690	2001 <i>OO</i> ₇₄		12 4.3 74°35	1.7/ 4.8	18		484182	2006 <i>UP</i> ₂₈₆		12 4.3 13°90	1.8/ 4.7	18	
10 28	5 18.95	+26 46.0	1.486	2.289	18.3	20.4	10 28	5 13.03	+26 5.9	1.916	2.713	15.0	21.6
11 7	5 12.93	+26 51.4	1.434	2.317	14.2	20.2	11 7	5 8.21	+26 32.7	1.833	2.713	11.7	21.4
11 17	5 3.68	+26 48.6	1.403	2.345	9.5	20.0	11 17	5 0.68	+26 54.9	1.773	2.713	8.0	21.2
11 27	4 52.28	+26 35.8	1.397	2.373	4.4	19.8	11 27	4 51.14	+27 10.3	1.738	2.714	3.9	20.9
12 7	4 40.24	+26 13.6	1.418	2.401	2.0	19.7	12 7	4 40.67	+27 17.8	1.732	2.714	2.1	20.8
12 17	4 29.13	+25 44.9	1.468	2.428	6.4	20.1	12 17	4 30.52	+27 17.7	1.755	2.715	5.7	21.0
12 27	4 20.32	+25 14.7	1.544	2.455	10.9	20.4	12 27	4 21.92	+27 12.6	1.806	2.715	9.7	21.3
1 6	4 14.58	+24 47.7	1.643	2.482	14.6	20.7	1 6	4 15.77	+27 5.9	1.881	2.716	13.2	21.5
418667	2008 <i>TO</i> ₁₃₀		12 4.3 32°05	0.2/ 4.4	17		9018	Galache		12 4.3 169°24	0.4/ 4.2	18	
10 28	5 8.89	+24 15.7	1.965	2.770	14.3	21.1	10 28	5 15.16	+23 24.3	1.691	2.495	16.4	18.1
11 7	5 4.66	+24 2.1	1.894	2.780	11.1	20.9	11 7	5 9.95	+22 56.8	1.612	2.497	12.7	17.9
11 17	4 58.08	+23 43.2	1.846	2.791	7.3	20.7	11 17	5 1.84	+22 22.7	1.554	2.499	8.4	17.6
11 27	4 49.89	+23 19.2	1.823	2.802	3.2	20.5	11 27	4 51.62	+21 42.7	1.522	2.501	3.6	17.3
12 7	4 41.07	+22 51.4	1.829	2.813	1.1	20.3	12 7	4 40.53	+20 58.9	1.518	2.502	1.5	17.2
12 17	4 32.71	+22 22.3	1.864	2.825	5.3	20.6	12 17	4 29.96	+20 14.9	1.543	2.503	6.4	17.5
12 27	4 25.83	+21 55.1	1.927	2.838	9.1	20.9	12 27	4 21.19	+19 35.3	1.596	2.504	10.9	17.8
1 6	4 21.10	+21 32.6	2.014	2.850	12.4	21.1	1 6	4 15.10	+19 4.0	1.672	2.504	14.7	18.0
109012	2001 <i>QY</i> ₃		12 4.3 92°94	1.2/ 4.7	18		9866	Kanaimitsuo		12 4.3 76°23	2.1/ 3.9	18	
10 28	5 13.08	+26 39.3	1.955	2.750	14.8	19.8	10 28	5 17.80	+18 29.5	1.264	2.085	19.8	17.3
11 7	5 7.93	+26 33.4	1.882	2.761	11.5	19.6	11 7	5 12.44	+18 16.6	1.211	2.106	15.3	17.1
11 17	5 0.26	+26 20.4	1.831	2.773	7.7	19.4	11 17	5 3.60	+18 3.3	1.178	2.126	10.1	16.8
11 27	4 50.83	+25 59.7	1.807	2.784	3.6	19.2	11 27	4 52.35	+17 50.8	1.169	2.147	4.6	16.6
12 7	4 40.73	+25 31.9	1.812	2.795	1.5	19.0	12 7	4 40.31	+17 40.7	1.185	2.168	2.7	16.5
12 17	4 31.15	+24 59.6	1.846	2.806	5.4	19.3	12 17	4 29.17	+17 35.2	1.229	2.188	7.7	16.9
12 27	4 23.17	+24 26.3	1.908	2.817	9.3	19.6	12 27	4 20.43	+17 36.7	1.298	2.208	12.6	17.2
1 6	4 17.54	+23 56.1	1.995	2.828	12.6	19.8	1 6	4 14.96	+17 46.7	1.388	2.228	16.7	17.5
139803	2001 <i>RP</i> ₁₅		12 4.3 328°75	3.2/ 3.4	18		205407	2001 <i>FJ</i> ₁₄		12 4.3 170°17	1.9/ 3.7	18	
10 28	5 9.96	+14 56.4	1.889	2.696	14.7	19.8	10 28	5 12.26	+17 8.9	2.434	3.222	12.4	21.3
11 7	5 5.57	+14 26.3	1.809	2.695	11.5	19.5	11 7	5 6.77	+16 47.9	2.350	3.227	9.6	21.1
11 17	4 58.77	+13 57.3	1.751	2.694	7.9	19.3	11 17	4 59.29	+16 26.4	2.290	3.230	6.4	20.9
11 27	4 50.23	+13 31.9	1.719	2.692	4.3	19.1	11 27	4 50.42	+16 5.7	2.258	3.233	3.2	20.7
12 7	4 40.95	+13 12.6	1.716	2.691	3.6	19.1	12 7	4 40.97	+15 47.4	2.257	3.236	2.3	20.7
12 17	4 32.00	+13 1.7	1.740	2.690	6.8	19.3	12 17	4 31.83	+15 33.0	2.286	3.238	5.3	20.9
12 27	4 24.47	+13 0.7	1.792	2.689	10.5	19.5	12 27	4 23.86	+15 24.4	2.345	3.239	8.5	21.1
1 6	4 19.11	+13 10.2	1.868	2.688	13.9	19.7	1 6	4 17.70	+15 22.6	2.430	3.239	11.4	21.3
244449	2002 <i>RF</i> ₉₇		12 4.3 58°42	7.9/ 1.9	18		54374	2000 <i>KM</i> ₅₅		12 4.3 195°59	1.5/ 4.0	18	
10 28	5 10.25	+ 5 21.5	1.655	2.459	16.6	19.8	10 28	5 14.59	+18 11.6	1.783	2.586	15.7	19.2
11 7	5 5.72	+ 4 0.5	1.603	2.476	13.5	19.7	11 7	5 9.43	+18 12.7	1.700	2.585	12.2	18.9
11 17	4 58.76	+ 2 48.9	1.572	2.494	10.4	19.5	11 17	5 1.50	+18 14.2	1.639	2.583	8.1	18.7
11 27	4 50.16	+ 1 52.9	1.567	2.511	8.2	19.4	11 27	4 51.51	+18 16.4	1.604	2.582	3.7	18.4
12 7	4 41.02	+ 1 17.6	1.587	2.529	8.2	19.5	12 7	4 40.56	+18 19.8	1.597	2.579	2.1	18.3
12 17	4 32.47	+ 1 5.4	1.634	2.547	10.3	19.7	12 17	4 29.95	+18 25.5	1.619	2.577	6.4	18.6
12 27	4 25.54	+ 1 16.1	1.705	2.565	13.1	19.9	12 27	4 20.93	+18 35.0	1.669	2.574	10.7	18.8
1 6	4 20.90	+ 1 46.6	1.797	2.584	15.7	20.1	1 6	4 14.41	+18 49.7	1.743	2.571	14.4	19.1
226659	2004 <i>FJ</i> ₁₆₂		12 4.3 67°22	0.4/ 4.3	18		320094	2007 <i>EC</i> ₉₉		12 4.3 209°19	1.3/ 3.9	18	
10 28	5 16.22	+20 4.3	1.417	2.233	18.4	20.4	10 28	5 9.76	+18 46.5	2.616	3.406	11.6	21.3
11 7	5 11.14	+20 25.3	1.355	2.247	14.2	20.2	11 7	5 4.82	+18 33.6	2.523	3.401	9.0	21.1
11 17	5 2.77	+20 46.0	1.314	2.261	9.4	20.0	11 17	4 58.03	+18 19.6	2.454	3.396	6.0	20.9
11 27	4 52.02	+21 5.4	1.297	2.276	4.0	19.7	11 27	4 49.89	+18 5.2	2.413	3.390	2.7	20.7
12 7	4 40.33	+21 22.6	1.307	2.291	1.6	19.6	12 7	4 41.16	+17 51.6	2.402	3.384	1.7	20.6
12 17	4 29.30	+21 37.8	1.344	2.305	6.8	20.0	12 17	4 32.64	+17 40.1	2.422	3.377	4.8	20.8
12 27	4 20.39	+21 53.0	1.407	2.320	11.6	20.3	12 27	4 25.13	+17 32.3	2.472	3.370	7.9	21.0
1 6	4 14.55	+22 10.2	1.494	2.335	15.7	20.6	1 6	4 19.28	+17 29.5	2.548	3.363	10.8	21.1
295099	2008 <i>EP</i> ₁₆₀		12 4.3 97°54	1.6/ 3.7	18		28051	1998 <i>HS</i> ₁₅₃		12 4.3 147°55	0.4/ 4.5	18	
10 28	5 5.20	+17 0.8	3.096	3.888	9.9	21.3	10 28	5 11.00	+24 9.2	2.171	2.966	13.5	19.4
11 7	5 0.98	+16 44.0	3.012	3.891	7.7	21.2	11 7	5 6.19	+24 5.0	2.087	2.968	10.5	19.2
11 17	4 55.31	+16 27.3	2.953	3.895	5.1	21.0	11 17	4 59.10	+23 56.2	2.027	2.970	7.0	19.0
11 27	4 48.64	+16 11.5	2.922	3.898	2.5	20.9	11 27	4 50.39	+23 42.6	1.993	2.971	3.1	18.8
12 7	4 41.57	+15 57.9	2.922	3.901	1.9	20.8	12 7	4 40.98	+23 24.7	1.989	2.973	1.1	18.6
12 17	4 34.71	+15 47.6	2.953	3.905	4.2	21.0	12 17	4 31.91	+23 4.2	2.014	2.974	5.1	18.9
12 27	4 28.67	+15 41.7	3.013	3.908	6.8	21.2	12 27	4 24.18	+22 43.9	2.068	2.975	8.8	19.1
1 6	4 23.94	+15 41.1	3.099	3.911	9.1	21.3	1 6	4 18.52	+22 26.5	2.147	2.977	12.0	19.4
50436	2000 <i>DK</i> ₂₃		12 4.3 84°14	1.5/ 3.9	18		86904	2000 <i>HM</i> ₄₆		12 4.3 109°42	2.7/ 5.0	18	
10 28													

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
105569	2000 <i>RB</i> ₆₅		12 4.3 61°56'	5°9'	2.1	18	226979	2004 <i>XG</i> ₂₂		12 4.4 347°08'	0°7'	4.1	17
10 28	5 9.62	+ 9 58.6	1.860	2.665	15.0	19.2	10 28	5 8.01	+22 15.5	1.860	2.672	14.8	19.8
11 7	5 5.05	+ 8 39.5	1.800	2.680	11.9	19.0	11 7	5 4.27	+21 49.2	1.776	2.667	11.5	19.6
11 17	4 58.26	+ 7 24.5	1.763	2.695	8.7	18.9	11 17	4 58.04	+21 18.0	1.715	2.662	7.6	19.3
11 27	4 49.97	+ 6 18.8	1.753	2.710	6.3	18.8	11 27	4 50.01	+20 42.8	1.679	2.658	3.3	19.1
12 7	4 41.18	+ 5 27.1	1.770	2.725	6.2	18.8	12 7	4 41.20	+20 5.9	1.670	2.654	1.5	18.9
12 17	4 32.89	+ 4 52.9	1.814	2.741	8.5	19.0	12 17	4 32.73	+19 30.2	1.691	2.651	5.8	19.2
12 27	4 26.06	+ 4 37.6	1.885	2.756	11.5	19.2	12 27	4 25.72	+18 59.3	1.738	2.648	10.0	19.5
1 6	4 21.33	+ 4 40.0	1.978	2.772	14.3	19.4	1 6	4 20.95	+18 36.0	1.809	2.646	13.6	19.7
34941	1244 <i>T</i> ₋₁		12 4.3 56°30'	1°6'	3.8	18	162241	1999 <i>TZ</i> ₂₁₇		12 4.4 38°51'	1°9'	4.8	18
10 28	5 10.63	+19 32.7	1.844	2.652	15.0	18.7	10 28	5 13.22	+26 44.2	1.386	2.204	18.6	20.1
11 7	5 6.11	+19 7.0	1.771	2.660	11.6	18.5	11 7	5 9.00	+26 55.2	1.327	2.219	14.5	19.9
11 17	4 59.12	+18 38.9	1.721	2.667	7.7	18.3	11 17	5 1.43	+26 58.2	1.288	2.234	9.8	19.6
11 27	4 50.41	+18 10.1	1.697	2.675	3.5	18.0	11 27	4 51.50	+26 51.5	1.273	2.250	4.7	19.4
12 7	4 41.01	+17 42.5	1.701	2.683	2.2	17.9	12 7	4 40.69	+26 34.9	1.284	2.267	2.2	19.3
12 17	4 32.07	+17 18.8	1.734	2.691	6.1	18.2	12 17	4 30.64	+26 11.1	1.322	2.284	6.7	19.6
12 27	4 24.66	+17 1.7	1.794	2.699	10.0	18.5	12 27	4 22.79	+25 44.8	1.385	2.302	11.4	19.9
1 6	4 19.52	+16 52.8	1.878	2.707	13.5	18.7	1 6	4 18.03	+25 21.1	1.470	2.321	15.4	20.2
454955	2015 <i>TA</i> ₁₉₇		12 4.3 31°45'	0°0'	4.1	17	351436	2005 <i>GJ</i> ₂₁₀		12 4.4 141°66'	7°3'	2.9	18
10 28	5 11.70	+21 21.0	1.473	2.294	17.5	20.9	10 28	5 12.13	+ 0 52.1	2.126	2.899	14.5	20.9
11 7	5 7.55	+21 39.1	1.413	2.308	13.6	20.6	11 7	5 6.82	+ 0 22.3	2.056	2.905	12.0	20.7
11 17	5 0.36	+21 55.6	1.374	2.323	8.9	20.4	11 17	4 59.41	+ 0 4.3	2.007	2.912	9.5	20.6
11 27	4 51.00	+22 9.3	1.359	2.338	3.8	20.2	11 27	4 50.52	+ 0 1.9	1.984	2.918	7.6	20.5
12 7	4 40.80	+22 20.0	1.370	2.354	1.4	20.0	12 7	4 41.04	+ 0 17.7	1.989	2.924	7.4	20.5
12 17	4 31.21	+22 28.5	1.409	2.371	6.4	20.4	12 17	4 31.91	+ 0 51.9	2.022	2.929	9.0	20.6
12 27	4 23.56	+22 36.7	1.474	2.389	11.0	20.7	12 27	4 24.04	+ 1 43.2	2.082	2.934	11.4	20.7
1 6	4 18.73	+22 47.0	1.561	2.407	14.8	21.0	1 6	4 18.12	+ 2 48.2	2.165	2.939	13.8	20.9
246440	2007 <i>VG</i> ₁₅₄		12 4.3 168°00'	1°6'	3.9	18	487503	2014 <i>SS</i> ₃₃₁		12 4.4 58°35'	3°6'	2.8	18
10 28	5 12.26	+19 2.7	1.917	2.720	14.7	21.2	10 28	5 8.41	+14 48.6	2.172	2.974	13.2	21.1
11 7	5 7.37	+18 45.9	1.836	2.721	11.4	21.0	11 7	5 3.99	+13 49.2	2.096	2.979	10.3	20.9
11 17	4 59.98	+18 27.4	1.778	2.723	7.6	20.8	11 17	4 57.54	+12 49.4	2.044	2.984	7.1	20.7
11 27	4 50.80	+18 8.5	1.746	2.724	3.5	20.5	11 27	4 49.71	+11 52.7	2.019	2.989	4.2	20.6
12 7	4 40.86	+17 50.5	1.743	2.725	2.1	20.4	12 7	4 41.34	+11 2.7	2.023	2.994	3.9	20.6
12 17	4 31.28	+17 35.7	1.769	2.726	6.0	20.7	12 17	4 33.34	+10 22.6	2.057	2.999	6.6	20.7
12 27	4 23.18	+17 26.2	1.823	2.726	10.0	20.9	12 27	4 26.57	+ 9 54.7	2.118	3.004	9.7	21.0
1 6	4 17.34	+17 23.9	1.901	2.726	13.5	21.2	1 6	4 21.66	+ 9 39.9	2.203	3.009	12.6	21.2
49917	1999 <i>XG</i> ₁₇₂		12 4.4 29°49'	3°8'	5.4	18	386648	2009 <i>SP</i> ₃₁₄		12 4.4 182°82'	1°6'	3.9	18
10 28	5 14.51	+31 28.4	1.301	2.115	19.8	18.7	10 28	5 15.83	+19 20.7	1.956	2.750	14.8	21.9
11 7	5 10.52	+31 35.9	1.234	2.120	15.8	18.4	11 7	5 10.08	+18 56.7	1.871	2.752	11.5	21.7
11 17	5 2.72	+31 29.6	1.185	2.125	11.1	18.2	11 17	5 1.78	+18 30.2	1.809	2.752	7.7	21.4
11 27	4 52.13	+31 6.0	1.159	2.132	6.2	17.9	11 27	4 51.61	+18 2.4	1.774	2.752	3.5	21.2
12 7	4 40.41	+30 24.9	1.159	2.138	3.9	17.8	12 7	4 40.65	+17 35.0	1.769	2.750	2.2	21.1
12 17	4 29.46	+29 30.1	1.184	2.145	7.6	18.1	12 17	4 30.07	+17 10.6	1.793	2.748	6.1	21.3
12 27	4 20.99	+28 29.5	1.234	2.153	12.4	18.4	12 27	4 21.01	+16 52.0	1.846	2.746	10.1	21.6
1 6	4 16.01	+27 31.3	1.306	2.161	16.6	18.6	1 6	4 14.28	+16 41.3	1.924	2.742	13.6	21.8
112017	2002 <i>GA</i> ₁₆₅		12 4.4 133°92'	3°9'	3.2	18	312377	2008 <i>ES</i> ₄₈		12 4.4 338°40'	1°7'	3.9	18
10 28	5 15.67	+14 40.6	1.676	2.480	16.5	20.4	10 28	5 8.79	+18 42.8	1.530	2.354	16.8	21.0
11 7	5 10.09	+13 55.3	1.608	2.492	12.9	20.2	11 7	5 5.46	+18 33.4	1.447	2.344	13.2	20.7
11 17	5 1.77	+13 10.9	1.562	2.503	8.8	20.0	11 17	4 59.16	+18 23.4	1.385	2.334	8.8	20.4
11 27	4 51.56	+12 30.9	1.542	2.514	5.0	19.8	11 27	4 50.62	+18 13.8	1.347	2.326	4.0	20.1
12 7	4 40.63	+11 58.6	1.550	2.524	4.3	19.7	12 7	4 40.99	+18 6.2	1.335	2.317	2.4	20.0
12 17	4 30.27	+11 37.2	1.587	2.533	7.7	20.0	12 17	4 31.66	+18 2.4	1.350	2.310	7.0	20.3
12 27	4 21.68	+11 28.6	1.650	2.542	11.6	20.2	12 27	4 24.02	+18 4.7	1.391	2.304	11.7	20.5
1 6	4 15.63	+11 33.2	1.736	2.550	15.1	20.5	1 6	4 19.05	+18 14.8	1.454	2.298	15.8	20.8
9005	Sidorova		12 4.4 129°35'	0°7'	4.6	18 R	302589	2002 <i>PT</i> ₁₉₈		12 4.4 118°16'	0°6'	4.6	18
10 28	5 14.09	+25 30.4	2.002	2.795	14.5	18.0	10 28	5 15.10	+27 14.2	2.103	2.889	14.2	21.2
11 7	5 8.67	+25 19.0	1.926	2.805	11.3	17.8	11 7	5 9.21	+26 37.1	2.029	2.904	11.0	21.0
11 17	5 0.76	+25 1.2	1.872	2.814	7.5	17.6	11 17	5 0.97	+25 51.2	1.979	2.919	7.3	20.8
11 27	4 51.11	+24 36.7	1.845	2.823	3.4	17.3	11 27	4 51.17	+24 56.9	1.956	2.933	3.3	20.6
12 7	4 40.79	+24 6.4	1.848	2.832	1.3	17.2	12 7	4 40.86	+23 56.6	1.963	2.947	1.2	20.5
12 17	4 30.95	+23 32.7	1.880	2.840	5.4	17.5	12 17	4 31.13	+22 54.0	2.001	2.960	5.1	20.8
12 27	4 22.67	+22 59.5	1.940	2.848	9.2	17.7	12 27	4 22.98	+21 54.0	2.068	2.973	8.9	21.0
1 6	4 16.71	+22 30.2	2.026	2.855	12.6	18.0	1 6	4 17.09	+21 0.6	2.161	2.986	12.1	21.3
411060	2009 <i>VZ</i> ₄₉		12 4.4 345°91'	2°2'	3.5	17	307912	2004 <i>DM</i> ₁₂		12 4.4 304°15'	8°4'	6.6	17
10 28	5 7.20	+18 59.8	1.830	2.646	14.8	20.5	10 28	5 16.80	+42 17.3	1.824	2.580	17.1	20.3
11 7	5 3.62	+18 17.9	1.747	2.639	11.5	20.2	11 7	5 12.22	+43 20.0	1.734	2.569	14.6	20.1
11 17	4 57.60	+17 32.6	1.686	2.633	7.7	20.0	11 17	5 3.98	+44 7.8	1.664	2.558	11.8	19.9
11 27	4 49.82	+16 46.5	1.651	2.628	3.7	19.7	11 27	4 52.83	+44 33.3	1.618	2.547	9.4	19.7
12 7	4 41.26	+16 2.8	1.643	2.623	2.7	19.7	12 7	4 40.18	+44 31.5	1.596	2.536	8.4	19.6
12 17	4 33.05	+15 25.0	1.664	2.619	6.5	19.9	12 17	4 27.83	+44 1.6	1.601	2.526	9.6	19.7
12 27	4 26.26	+14 56.4	1.711	2.616	10.5	20.1	12 27	4 17.59	+43 8.6	1.631	2.515	12.2	19.8
1 6	4 21.67	+14 39.0	1.782	2.613	14.0	20.3	1 6	4 10.70	+42 1.5	1.684	2.506	15.1	20.0
123835	2001 <i>CP</i> ₁₆		12 4.4 316°84'	0°3'	4.3	17	129870	1999 <i>RF</i> ₂₀₀		12 4.4 254°98'	7°3'	7.0	18

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
398498	2011 <i>UX</i> ₁₈₀	12 4.4	137°32	0°5/ 4.5	18		392790	2012 <i>TO</i> ₁₆₅	12 4.4	308°51	0°7/ 4.5	18	
10 28	5 13.06	+24 55.4	2.041	2.835	14.3	21.8	10 28	5 12.54	+23 39.7	1.505	2.321	17.4	21.2
11 7	5 7.89	+24 45.9	1.961	2.841	11.1	21.6	11 7	5 8.65	+23 50.4	1.418	2.310	13.7	21.0
11 17	5 0.28	+24 30.6	1.905	2.847	7.4	21.4	11 17	5 1.48	+23 57.2	1.351	2.298	9.2	20.7
11 27	4 50.95	+24 9.3	1.875	2.852	3.3	21.2	11 27	4 51.73	+23 58.5	1.309	2.287	4.1	20.4
12 7	4 40.92	+23 42.8	1.874	2.858	1.2	21.0	12 7	4 40.70	+23 54.0	1.293	2.277	1.5	20.1
12 17	4 31.32	+23 13.4	1.903	2.863	5.3	21.3	12 17	4 29.93	+23 44.9	1.304	2.266	6.8	20.5
12 27	4 23.20	+22 44.4	1.960	2.868	9.2	21.6	12 27	4 21.01	+23 34.6	1.341	2.257	11.8	20.7
1 6	4 17.33	+22 19.1	2.043	2.873	12.5	21.8	1 6	4 15.07	+23 26.9	1.400	2.247	16.2	21.0
332299	2006 <i>UG</i> ₁₈₆	12 4.4	52°06	0°3/ 4.5	18		197042	2003 <i>UW</i> ₁₃₅	12 4.4	96°00	5°5/ 6.4	18	
10 28	5 14.70	+25 58.1	1.276	2.098	19.6	20.3	10 28	5 17.46	+39 45.0	2.602	3.339	13.0	20.3
11 7	5 10.32	+25 23.5	1.214	2.109	15.3	20.1	11 7	5 11.14	+40 35.3	2.534	3.362	10.7	20.1
11 17	5 2.37	+24 38.2	1.172	2.121	10.1	19.8	11 17	5 2.38	+41 13.9	2.489	3.384	8.3	20.0
11 27	4 51.94	+23 43.0	1.154	2.133	4.4	19.5	11 27	4 51.89	+41 37.0	2.471	3.405	6.3	19.9
12 7	4 40.63	+22 41.2	1.161	2.146	1.5	19.4	12 7	4 40.71	+41 42.4	2.481	3.427	5.5	19.9
12 17	4 30.18	+21 38.7	1.195	2.158	7.2	19.8	12 17	4 29.97	+41 30.6	2.521	3.448	6.5	20.0
12 27	4 22.12	+20 42.4	1.254	2.171	12.4	20.1	12 27	4 20.73	+41 4.8	2.589	3.468	8.4	20.1
1 6	4 17.34	+19 57.6	1.335	2.185	16.7	20.4	1 6	4 13.76	+40 30.2	2.683	3.488	10.6	20.3
96269	1995 <i>SA</i> ₆₇	12 4.4	339°88	3°7/ 3.5	18		104740	2000 <i>HY</i> ₈	12 4.4	123°90	1°4/ 4.8	18	
10 28	5 7.57	+16 12.1	1.332	2.167	18.2	19.8	10 28	5 15.01	+26 44.4	2.503	3.279	12.4	20.3
11 7	5 4.86	+15 37.6	1.253	2.155	14.3	19.6	11 7	5 8.93	+27 0.3	2.430	3.297	9.7	20.2
11 17	4 58.96	+15 3.0	1.194	2.144	9.8	19.3	11 17	5 0.76	+27 11.0	2.380	3.316	6.5	20.0
11 27	4 50.60	+14 31.6	1.158	2.134	5.2	19.0	11 27	4 51.15	+27 15.2	2.359	3.333	3.2	19.8
12 7	4 41.06	+14 7.4	1.147	2.125	4.2	18.9	12 7	4 40.99	+27 12.5	2.368	3.350	1.6	19.7
12 17	4 31.87	+13 53.8	1.161	2.117	8.5	19.1	12 17	4 31.22	+27 3.8	2.409	3.366	4.6	19.9
12 27	4 24.54	+13 53.4	1.199	2.110	13.3	19.4	12 27	4 22.75	+26 51.5	2.479	3.382	7.7	20.2
1 6	4 20.11	+14 7.0	1.258	2.105	17.7	19.6	1 6	4 16.24	+26 38.3	2.576	3.397	10.5	20.4
477253	2009 <i>SV</i> ₃₆	12 4.4	84°15	1°5/ 4.8	16		27617	2001 <i>KX</i> ₄₄	12 4.4	33°57	7°7/ 2.2	18	
10 28	5 17.73	+26 32.1	1.496	2.301	18.1	21.5	10 28	5 8.96	+ 8 12.1	1.425	2.246	18.0	18.2
11 7	5 12.19	+26 34.6	1.436	2.320	14.1	21.3	11 7	5 5.20	+ 6 47.4	1.374	2.261	14.4	18.0
11 17	5 3.40	+26 29.2	1.396	2.340	9.4	21.1	11 17	4 58.69	+ 5 30.2	1.343	2.276	10.8	17.8
11 27	4 52.35	+26 14.2	1.382	2.358	4.4	20.9	11 27	4 50.31	+ 4 27.7	1.336	2.292	8.1	17.7
12 7	4 40.50	+25 50.1	1.394	2.377	1.9	20.7	12 7	4 41.31	+ 3 45.6	1.355	2.308	8.0	17.7
12 17	4 29.46	+25 19.7	1.434	2.396	6.5	21.1	12 17	4 32.96	+ 3 27.3	1.398	2.325	10.5	17.9
12 27	4 20.62	+24 48.1	1.501	2.414	11.0	21.4	12 27	4 26.40	+ 3 32.9	1.466	2.343	13.8	18.2
1 6	4 14.82	+24 20.0	1.591	2.432	14.9	21.7	1 6	4 22.38	+ 3 59.4	1.554	2.362	16.8	18.4
278211	2007 <i>EX</i> ₃₈	12 4.4	161°84	0°6/ 4.5	18		115989	2003 <i>WD</i> ₆₃	12 4.4	231°68	0°3/ 4.5	18	
10 28	5 15.99	+24 20.7	2.087	2.874	14.2	22.2	10 28	5 12.84	+24 30.6	2.054	2.848	14.2	20.1
11 7	5 10.14	+24 24.9	2.005	2.881	11.1	22.0	11 7	5 7.89	+24 17.7	1.960	2.841	11.1	19.9
11 17	5 1.79	+24 24.5	1.946	2.886	7.4	21.8	11 17	5 0.43	+23 59.1	1.890	2.833	7.4	19.7
11 27	4 51.64	+24 18.6	1.914	2.891	3.3	21.5	11 27	4 51.13	+23 34.3	1.846	2.824	3.3	19.4
12 7	4 40.73	+24 7.3	1.912	2.896	1.2	21.4	12 7	4 40.99	+23 4.5	1.832	2.816	1.1	19.2
12 17	4 30.20	+23 52.0	1.940	2.900	5.3	21.7	12 17	4 31.13	+22 31.9	1.847	2.807	5.4	19.5
12 27	4 21.18	+23 35.5	1.997	2.903	9.2	21.9	12 27	4 22.68	+21 59.9	1.890	2.798	9.5	19.7
1 6	4 14.44	+23 20.9	2.080	2.905	12.5	22.1	1 6	4 16.48	+21 32.2	1.959	2.788	13.0	19.9
311390	2005 <i>TA</i> ₃₀	12 4.4	76°28	3°6/ 3.7	18		253333	2003 <i>FA</i> ₇	12 4.4	7°83	3°4/ 5.3	18	
10 28	5 12.09	+11 34.1	1.968	2.766	14.6	20.5	10 28	5 12.93	+30 55.0	1.896	2.686	15.3	20.7
11 7	5 6.99	+11 28.4	1.901	2.780	11.4	20.3	11 7	5 8.32	+31 22.9	1.814	2.686	12.2	20.5
11 17	4 59.61	+11 28.1	1.858	2.795	7.9	20.1	11 17	5 0.90	+31 42.2	1.754	2.687	8.6	20.3
11 27	4 50.66	+11 34.7	1.840	2.810	4.6	20.0	11 27	4 51.37	+31 50.0	1.719	2.687	5.1	20.0
12 7	4 41.11	+11 49.3	1.852	2.824	3.9	20.0	12 7	4 40.90	+31 44.7	1.712	2.688	3.5	20.0
12 17	4 31.99	+12 12.2	1.892	2.839	6.6	20.2	12 17	4 30.80	+31 27.3	1.734	2.689	6.2	20.1
12 27	4 24.28	+12 43.3	1.961	2.854	10.0	20.4	12 27	4 22.35	+31 1.4	1.782	2.691	9.9	20.3
1 6	4 18.67	+13 21.7	2.053	2.868	13.0	20.6	1 6	4 16.46	+30 32.0	1.855	2.692	13.3	20.6
254304	2004 <i>RN</i> ₂₉₃	12 4.4	249°77	1°0/ 4.7	17		196033	2002 <i>SU</i> ₂₁	12 4.4	61°35	0°7/ 4.2	18	
10 28	5 11.07	+25 58.8	2.256	3.047	13.2	21.5	10 28	5 9.83	+20 41.7	2.204	3.003	13.2	20.3
11 7	5 6.33	+25 55.3	2.161	3.039	10.3	21.2	11 7	5 5.13	+20 35.6	2.135	3.018	10.2	20.1
11 17	4 59.30	+25 46.1	2.090	3.031	6.9	21.0	11 17	4 58.34	+20 27.6	2.088	3.033	6.7	19.9
11 27	4 50.59	+25 30.4	2.046	3.022	3.2	20.8	11 27	4 50.13	+20 18.0	2.069	3.048	2.9	19.7
12 7	4 41.11	+25 8.6	2.030	3.014	1.3	20.6	12 7	4 41.37	+20 7.7	2.079	3.063	1.3	19.6
12 17	4 31.89	+24 42.4	2.045	3.005	5.0	20.9	12 17	4 33.02	+19 58.2	2.119	3.078	5.0	19.9
12 27	4 23.93	+24 14.9	2.089	2.997	8.7	21.1	12 27	4 25.95	+19 51.4	2.187	3.093	8.4	20.1
1 6	4 18.01	+23 49.2	2.158	2.988	11.9	21.3	1 6	4 20.82	+19 48.7	2.281	3.108	11.4	20.4
279029	2008 <i>UD</i> ₃₆₄	12 4.4	332°18	3°6/ 6.3	18		5454	<i>Kojiki</i>	12 4.4	4°64	3°0/ 5.3	18	
10 28	5 12.44	+36 20.2	2.262	3.029	13.9	19.4	10 28	5 10.17	+30 36.8	1.962	2.756	14.8	17.1
11 7	5 7.43	+35 56.1	2.169	3.024	11.2	19.2	11 7	5 6.04	+30 52.1	1.881	2.756	11.7	16.9
11 17	4 59.99	+35 17.7	2.099	3.020	8.2	19.0	11 17	4 59.30	+30 58.6	1.821	2.756	8.2	16.7
11 27	4 50.85	+34 23.1	2.054	3.016	5.1	18.8	11 27	4 50.65	+30 54.2	1.787	2.758	4.6	16.5
12 7	4 41.06	+33 13.3	2.039	3.012	3.6	18.7	12 7	4 41.17	+30 38.2	1.781	2.759	3.1	16.4
12 17	4 31.75	+31 51.7	2.054	3.008	5.5	18.8	12 17	4 32.06	+30 12.1	1.803	2.761	5.8	16.5
12 27	4 23.97	+30 24.1	2.098	3.005	8.7	19.0	12 27	4 24.51	+29 39.8	1.853	2.764	9.4	16.8
1 6	4 18.46	+28 57.1	2.169	3.002	11.7	19.2	1 6	4 19.32	+29 5.8	1.927	2.767	12.7	17.0
458420	2011 <i>AG</i> ₁₄	12 4.4	267°78	1°9/ 3.8	18		181558	2006 <					

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
308836	2006 <i>RZ</i> ₃₈	12	4.4	116°12	3°6/ 5.2	18	515498	2014 <i>DK</i> ₈₈	12	4.4	353°26	3°8/ 5.3	18
10 28	5 16.80	+31 5.6	2.059	2.836	14.7	21.0	10 28	5 9.46	+29 49.9	1.152	1.985	20.6	20.9
11 7	5 11.05	+31 49.9	1.983	2.847	11.7	20.8	11 7	5 7.24	+30 10.8	1.081	1.979	16.5	20.6
11 17	5 2.56	+32 26.5	1.930	2.858	8.3	20.6	11 17	5 1.01	+30 19.9	1.027	1.973	11.6	20.3
11 27	4 52.07	+32 51.9	1.903	2.868	5.0	20.4	11 27	4 51.67	+30 13.4	0.995	1.969	6.4	20.0
12 7	4 40.69	+33 3.8	1.905	2.878	3.7	20.3	12 7	4 40.87	+29 49.7	0.986	1.967	3.9	19.9
12 17	4 29.71	+33 2.4	1.936	2.888	6.1	20.5	12 17	4 30.62	+29 11.6	1.001	1.965	8.1	20.1
12 27	4 20.37	+32 50.7	1.996	2.898	9.4	20.7	12 27	4 22.85	+28 26.0	1.040	1.965	13.4	20.4
1 6	4 13.53	+32 33.3	2.081	2.907	12.4	20.9	1 6	4 18.78	+27 41.1	1.099	1.966	18.1	20.7
152200	2005 <i>QD</i> ₁₁₂	12	4.4	42°46	1°6/ 4.8	18	523290	2017 <i>BT</i> ₄₈	12	4.4	15°57	5°8/ 6.1	17
10 28	5 14.36	+26 5.0	1.309	2.130	19.3	20.4	10 28	5 13.34	+35 32.4	1.518	2.313	18.3	20.9
11 7	5 10.16	+26 12.9	1.248	2.141	15.1	20.2	11 7	5 9.45	+36 8.4	1.447	2.317	14.9	20.7
11 17	5 2.40	+26 13.1	1.205	2.152	10.1	19.9	11 17	5 2.03	+36 30.2	1.395	2.321	11.1	20.4
11 27	4 52.06	+26 3.8	1.186	2.163	4.7	19.7	11 27	4 51.98	+36 32.8	1.367	2.326	7.4	20.2
12 7	4 40.72	+25 45.0	1.192	2.175	2.1	19.5	12 7	4 40.80	+36 13.8	1.364	2.332	5.9	20.2
12 17	4 30.11	+25 19.5	1.225	2.188	7.0	19.9	12 17	4 30.22	+35 35.0	1.387	2.338	8.0	20.3
12 27	4 21.83	+24 52.5	1.282	2.201	12.0	20.2	12 27	4 21.87	+34 42.7	1.435	2.345	11.6	20.5
1 6	4 16.83	+24 28.9	1.362	2.214	16.2	20.5	1 6	4 16.75	+33 45.2	1.506	2.353	15.2	20.8
230579	2003 <i>CU</i> ₃	12	4.4	29°13	9°9/ 3.6	18	312577	2009 <i>HE</i> ₇₅	12	4.4	166°83	0°1/ 4.4	18
10 28	5 10.96	+ 2 40.9	1.133	1.958	21.4	19.5	10 28	5 13.94	+20 48.0	2.313	3.101	13.0	21.2
11 7	5 7.38	+ 1 56.4	1.086	1.971	17.6	19.3	11 7	5 8.38	+21 6.5	2.228	3.104	10.1	21.0
11 17	5 0.45	+ 1 30.2	1.058	1.985	13.6	19.1	11 17	5 0.60	+21 24.0	2.166	3.107	6.7	20.8
11 27	4 51.17	+ 1 29.3	1.050	2.000	10.6	19.0	11 27	4 51.20	+21 40.0	2.132	3.110	2.9	20.6
12 7	4 41.05	+ 1 57.1	1.065	2.016	10.1	19.0	12 7	4 41.07	+21 53.9	2.128	3.112	1.0	20.5
12 17	4 31.71	+ 2 52.8	1.103	2.033	12.3	19.2	12 17	4 31.21	+22 5.9	2.156	3.114	4.9	20.8
12 27	4 24.57	+ 4 11.8	1.164	2.051	15.8	19.4	12 27	4 22.58	+22 17.3	2.212	3.116	8.5	21.0
1 6	4 20.52	+ 5 46.8	1.244	2.070	19.1	19.7	1 6	4 15.94	+22 29.6	2.295	3.117	11.6	21.2
473583	2015 <i>XE</i> ₂₃₅	12	4.4	252°21	0°6/ 4.1	17	369666	2011 <i>HY</i> ₁₇	12	4.4	77°78	3°9/ 2.9	18
10 28	5 10.01	+21 58.3	2.185	2.983	13.3	21.7	10 28	5 7.25	+11 35.3	2.451	3.246	12.1	20.6
11 7	5 5.45	+21 36.2	2.097	2.980	10.3	21.5	11 7	5 2.96	+10 52.7	2.370	3.247	9.5	20.5
11 17	4 58.68	+21 10.0	2.033	2.977	6.8	21.3	11 17	4 56.87	+10 12.5	2.314	3.248	6.8	20.3
11 27	4 50.35	+20 40.6	1.996	2.974	3.0	21.1	11 27	4 49.53	+ 9 37.6	2.285	3.249	4.4	20.1
12 7	4 41.32	+20 9.5	1.988	2.971	1.3	20.9	12 7	4 41.68	+ 9 10.5	2.285	3.250	4.1	20.1
12 17	4 32.60	+19 39.1	2.010	2.968	5.2	21.2	12 17	4 34.09	+ 8 53.4	2.315	3.251	6.3	20.3
12 27	4 25.16	+19 12.3	2.060	2.965	8.9	21.4	12 27	4 27.54	+ 8 47.4	2.372	3.252	9.0	20.4
1 6	4 19.70	+18 51.4	2.135	2.962	12.1	21.6	1 6	4 22.61	+ 8 52.5	2.454	3.253	11.6	20.6
413267	2003 <i>TA</i> ₄₅	12	4.4	99°38	5°2/ 6.3	17	268233	2005 <i>EQ</i> ₁₇₀	12	4.4	214°20	5°9/ 1.3	18
10 28	5 14.26	+38 18.2	2.371	3.125	13.6	21.3	10 28	5 6.87	+ 3 21.0	2.833	3.607	11.2	20.7
11 7	5 8.96	+38 53.7	2.290	3.131	11.2	21.2	11 7	5 2.42	+ 2 13.7	2.750	3.602	9.2	20.6
11 17	5 1.11	+39 17.5	2.231	3.137	8.6	21.0	11 17	4 56.42	+ 1 12.0	2.691	3.596	7.3	20.5
11 27	4 51.42	+39 25.9	2.198	3.142	6.2	20.9	11 27	4 49.32	+ 0 19.9	2.660	3.591	6.1	20.4
12 7	4 40.94	+39 17.2	2.192	3.148	5.2	20.8	12 7	4 41.76	- 0 19.3	2.658	3.585	6.2	20.4
12 17	4 30.84	+38 52.1	2.216	3.154	6.5	20.9	12 17	4 34.39	- 0 43.2	2.684	3.578	7.6	20.5
12 27	4 22.25	+38 14.2	2.268	3.159	8.9	21.1	12 27	4 27.87	- 0 51.1	2.737	3.571	9.6	20.6
1 6	4 15.98	+37 28.9	2.345	3.165	11.4	21.3	1 6	4 22.75	- 0 43.8	2.814	3.565	11.5	20.7
372796	2010 <i>RT</i> ₁₁₃	12	4.4	51°60	1°8/ 4.9	18	476515	2008 <i>GM</i> ₇₀	12	4.4	281°42	5°8/ 4.2	18
10 28	5 15.73	+27 35.2	1.234	2.055	20.2	21.4	10 28	5 23.33	+28 33.3	1.528	2.319	18.4	20.5
11 7	5 11.47	+27 28.0	1.170	2.063	15.9	21.2	11 7	5 18.01	+30 28.5	1.429	2.300	15.0	20.2
11 17	5 3.39	+27 9.9	1.125	2.072	10.7	20.9	11 17	5 8.49	+32 26.7	1.351	2.282	10.9	19.9
11 27	4 52.52	+26 39.1	1.103	2.081	5.1	20.6	11 27	4 55.23	+34 19.0	1.299	2.263	7.0	19.7
12 7	4 40.58	+25 56.9	1.106	2.090	2.2	20.5	12 7	4 39.51	+35 55.1	1.274	2.244	6.0	19.6
12 17	4 29.46	+25 7.7	1.135	2.099	7.4	20.8	12 17	4 23.34	+37 7.5	1.279	2.224	9.3	19.7
12 27	4 20.86	+24 18.5	1.189	2.109	12.7	21.1	12 27	4 9.05	+37 55.4	1.310	2.205	13.7	19.9
1 6	4 15.77	+23 35.9	1.265	2.118	17.1	21.4	1 6	3 58.45	+38 24.6	1.363	2.186	17.9	20.1
139358	2001 <i>LJ</i> ₁₈	12	4.4	144°70	7°4/ 2.1	18	224109	2005 <i>PK</i> ₃	12	4.4	44°27	1°4/ 4.1	18
10 28	5 10.57	+ 2 35.9	2.108	2.889	14.3	20.3	10 28	5 14.12	+19 56.1	1.203	2.034	20.0	19.8
11 7	5 5.68	+ 1 36.1	2.039	2.895	11.8	20.2	11 7	5 9.89	+19 46.2	1.152	2.052	15.5	19.6
11 17	4 58.73	+ 0 45.6	1.993	2.901	9.3	20.0	11 17	5 2.13	+19 34.5	1.120	2.071	10.2	19.4
11 27	4 50.33	+ 0 9.2	1.972	2.906	7.6	19.9	11 27	4 51.93	+19 21.9	1.111	2.090	4.5	19.1
12 7	4 41.36	- 0 9.4	1.979	2.912	7.6	19.9	12 7	4 40.88	+19 10.0	1.127	2.110	2.2	19.0
12 17	4 32.74	- 0 8.4	2.014	2.916	9.3	20.1	12 17	4 30.71	+19 1.3	1.169	2.131	7.5	19.4
12 27	4 25.38	+ 0 12.0	2.074	2.921	11.6	20.2	12 27	4 22.91	+18 58.5	1.235	2.151	12.6	19.8
1 6	4 19.92	+ 0 49.5	2.157	2.925	14.0	20.4	1 6	4 18.35	+19 3.7	1.323	2.173	16.8	20.1
306876	2001 <i>TE</i>	12	4.4	36°09	7°5/ 5.9	18	408675	2014 <i>MG</i> ₃₈	12	4.4	44°45	4°1/ 3.7	18
10 28	5 30.08	+32 54.6	0.854	1.679	26.8	17.9	10 28	5 10.59	+10 19.2	1.954	2.754	14.6	20.5
11 7	5 23.04	+34 33.7	0.844	1.731	21.1	17.8	11 7	5 5.96	+10 12.0	1.882	2.761	11.5	20.3
11 17	5 10.83	+35 51.0	0.849	1.784	15.0	17.6	11 17	4 59.05	+10 11.2	1.833	2.769	8.1	20.1
11 27	4 55.44	+36 36.3	0.874	1.838	9.6	17.6	11 27	4 50.53	+10 18.7	1.810	2.777	5.0	19.9
12 7	4 39.73	+36 46.3	0.922	1.892	7.5	17.7	12 7	4 41.34	+10 35.8	1.815	2.785	4.4	19.9
12 17	4 26.39	+36 26.8	0.994	1.947	10.2	18.0	12 17	4 32.51	+11 2.8	1.848	2.793	6.9	20.1
12 27	4 17.21	+35 49.9	1.089	2.002	14.2	18.4	12 27	4 25.04	+11 39.2	1.909	2.801	10.3	20.3
1 6	4 12.77	+35 7.5	1.203	2.056	17.9	18.8	1 6	4 19.64	+12 23.9	1.994	2.810	13.3	20.5
284720	2008 <i>UV</i> ₂₃	12	4.4	235°97	1°2/ 4.8	18	243151	2007 <i>TA</i> ₃₃	12	4.4	116°98</		

EPHEMERIDES

12 4.4

12 4.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
209832	2005 <i>GB</i> ₁₄₇	12	4.4	276°03	1°6/ 4.8	18	177611	2004 <i>HO</i> ₁₅	12	4.4	109°63	1°6/ 4.9	18
10 28	5 12.95	+26 39.5	1.868	2.666	15.2	21.0	10 28	5 13.42	+26 45.6	2.079	2.869	14.2	20.8
11 7	5 8.43	+26 47.4	1.773	2.653	12.0	20.8	11 7	5 8.26	+26 57.5	2.001	2.877	11.1	20.6
11 17	5 1.07	+26 49.1	1.699	2.641	8.2	20.5	11 17	5 0.64	+27 3.5	1.947	2.886	7.5	20.4
11 27	4 51.55	+26 42.8	1.652	2.628	4.0	20.3	11 27	4 51.26	+27 2.3	1.919	2.894	3.7	20.2
12 7	4 40.96	+26 28.0	1.632	2.615	1.9	20.1	12 7	4 41.15	+26 53.4	1.919	2.902	1.8	20.1
12 17	4 30.59	+26 6.1	1.641	2.601	5.9	20.3	12 17	4 31.45	+26 38.3	1.950	2.910	5.2	20.3
12 27	4 21.76	+25 40.8	1.677	2.588	10.2	20.5	12 27	4 23.22	+26 19.9	2.009	2.917	8.9	20.5
1 6	4 15.44	+25 16.2	1.738	2.575	14.0	20.8	1 6	4 17.25	+26 1.5	2.093	2.925	12.2	20.8
422350	2014 <i>SY</i> ₂₂₈	12	4.4	349°88	8°4/30.8	17	356035	2009 <i>BT</i> ₁₈₂	12	4.4	323°81	8°3/ 2.4	18
10 28	5 4.87	+5 47.7	1.683	2.498	16.0	20.1	10 28	5 8.84	+4 35.9	1.573	2.382	17.1	20.4
11 7	5 1.94	+4 8.4	1.610	2.489	13.1	19.9	11 7	5 5.28	+3 39.0	1.495	2.371	14.1	20.2
11 17	4 56.61	+2 34.7	1.559	2.482	10.4	19.7	11 17	4 59.00	+2 51.8	1.436	2.360	11.0	19.9
11 27	4 49.53	+1 14.4	1.533	2.476	8.5	19.6	11 27	4 50.66	+2 20.6	1.401	2.349	8.7	19.8
12 7	4 41.71	+0 14.2	1.531	2.470	8.8	19.6	12 7	4 41.34	+2 10.6	1.391	2.339	8.6	19.7
12 17	4 34.21	-0 21.3	1.556	2.466	11.0	19.7	12 17	4 32.30	+2 24.3	1.407	2.330	10.9	19.9
12 27	4 28.10	-0 30.4	1.603	2.462	13.8	19.9	12 27	4 24.78	+3 1.4	1.446	2.321	14.1	20.0
1 6	4 24.16	-0 15.3	1.672	2.460	16.7	20.1	1 6	4 19.71	+3 58.6	1.507	2.312	17.4	20.2
113283	2002 <i>RT</i> ₁₆₂	12	4.4	296°26	4°1/ 5.8	18	78246	2002 <i>PH</i> ₃	12	4.4	54°78	1°2/ 3.9	18
10 28	5 12.07	+34 41.8	2.346	3.115	13.4	19.5	10 28	5 9.14	+21 28.1	2.287	3.085	12.8	19.2
11 7	5 7.28	+35 7.9	2.255	3.111	10.8	19.3	11 7	5 4.61	+20 45.9	2.205	3.088	9.9	19.0
11 17	5 0.05	+35 24.5	2.187	3.107	8.0	19.1	11 17	4 58.04	+19 59.3	2.146	3.091	6.5	18.8
11 27	4 51.03	+35 28.4	2.144	3.102	5.3	18.9	11 27	4 50.08	+19 9.9	2.116	3.094	2.9	18.6
12 7	4 41.17	+35 18.4	2.130	3.098	4.1	18.9	12 7	4 41.57	+18 20.2	2.114	3.097	1.7	18.5
12 17	4 31.60	+34 55.0	2.146	3.094	5.9	19.0	12 17	4 33.42	+17 33.3	2.143	3.100	5.2	18.7
12 27	4 23.39	+34 21.7	2.189	3.090	8.7	19.1	12 27	4 26.50	+16 52.4	2.201	3.103	8.6	19.0
1 6	4 17.36	+33 43.0	2.258	3.086	11.5	19.3	1 6	4 21.43	+16 19.8	2.284	3.106	11.6	19.2
302540	2002 <i>NA</i> ₄₀	12	4.4	83°74	0°8/ 4.7	15	482610	2013 <i>AW</i> ₁₈	12	4.4	275°01	9°7/ 8.4	18
10 28	5 16.19	+25 38.4	1.873	2.666	15.4	21.7	10 28	5 27.39	+51 32.1	2.245	2.929	16.2	21.6
11 7	5 10.31	+25 32.0	1.814	2.693	11.9	21.6	11 7	5 20.48	+52 4.6	2.126	2.898	14.4	21.4
11 17	5 1.85	+25 19.2	1.777	2.719	7.9	21.4	11 17	5 9.54	+52 17.1	2.025	2.865	12.4	21.2
11 27	4 51.70	+24 59.4	1.767	2.744	3.6	21.2	11 27	4 55.39	+52 0.8	1.947	2.832	10.6	21.0
12 7	4 41.00	+24 33.6	1.786	2.770	1.3	21.1	12 7	4 39.66	+51 9.8	1.894	2.799	9.7	20.9
12 17	4 30.98	+24 4.3	1.834	2.795	5.4	21.4	12 17	4 24.39	+49 43.2	1.869	2.764	10.3	20.8
12 27	4 22.73	+23 35.1	1.911	2.819	9.3	21.7	12 27	4 11.53	+47 47.2	1.870	2.729	12.2	20.9
1 6	4 16.94	+23 9.7	2.013	2.843	12.6	21.9	1 6	4 2.35	+45 33.1	1.897	2.693	14.7	21.0
487234	2014 <i>PA</i> ₁₀	12	4.4	220°05	1°3/ 4.8	17	219496	2001 <i>FK</i> ₈₇	12	4.4	164°83	0°6/ 4.5	18
10 28	5 12.59	+26 26.6	2.273	3.060	13.2	22.4	10 28	5 17.44	+23 28.2	1.813	2.608	15.8	20.9
11 7	5 7.53	+26 30.8	2.179	3.054	10.4	22.2	11 7	5 11.73	+23 41.0	1.733	2.613	12.3	20.7
11 17	5 0.15	+26 29.4	2.109	3.048	7.0	22.0	11 17	5 3.14	+23 50.3	1.675	2.617	8.2	20.5
11 27	4 51.06	+26 21.4	2.066	3.042	3.4	21.7	11 27	4 52.43	+23 54.5	1.642	2.620	3.7	20.2
12 7	4 41.17	+26 6.6	2.052	3.035	1.5	21.6	12 7	4 40.77	+23 53.3	1.639	2.623	1.3	20.1
12 17	4 31.54	+25 46.3	2.068	3.028	5.0	21.8	12 17	4 29.51	+23 47.5	1.665	2.625	5.9	20.4
12 27	4 23.20	+25 23.5	2.114	3.021	8.6	22.0	12 27	4 19.97	+23 40.0	1.719	2.627	10.2	20.6
1 6	4 16.92	+25 1.3	2.185	3.013	11.8	22.2	1 6	4 13.05	+23 34.0	1.798	2.628	13.9	20.9
191544	2003 <i>UA</i> ₂₅₅	12	4.4	117°44	0°4/ 4.3	18	167143	2003 <i>SD</i> ₂₀₀	12	4.4	38°36	6°9/ 5.8	18
10 28	5 10.36	+21 39.8	2.567	3.356	11.8	21.1	10 28	5 17.22	+35 43.7	1.471	2.263	18.9	19.2
11 7	5 5.29	+21 31.1	2.490	3.368	9.1	20.9	11 7	5 12.65	+36 55.8	1.410	2.275	15.5	19.0
11 17	4 58.38	+21 19.8	2.438	3.380	6.0	20.8	11 17	5 4.27	+37 55.0	1.368	2.289	11.7	18.8
11 27	4 50.20	+21 6.2	2.414	3.392	2.6	20.5	11 27	4 53.04	+38 34.1	1.349	2.303	8.3	18.6
12 7	4 41.52	+20 51.1	2.420	3.403	1.0	20.4	12 7	4 40.56	+38 48.6	1.355	2.317	6.9	18.6
12 17	4 33.18	+20 36.0	2.456	3.415	4.4	20.7	12 17	4 28.75	+38 38.7	1.388	2.332	8.9	18.8
12 27	4 25.95	+20 22.8	2.522	3.426	7.6	20.9	12 27	4 19.37	+38 9.9	1.445	2.347	12.2	19.0
1 6	4 20.44	+20 13.1	2.615	3.436	10.3	21.1	1 6	4 13.50	+37 30.9	1.525	2.363	15.6	19.2
28419	Tanpitcha	12	4.4	138°00	0°7/ 4.6	18	501566	2014 <i>NV</i> ₆₂	12	4.4	127°34	11°5/ 9.1	17
10 28	5 18.67	+23 38.7	1.801	2.593	15.9	19.6	10 28	5 29.33	+47 59.1	1.240	1.994	23.8	21.0
11 7	5 12.59	+23 55.0	1.727	2.606	12.4	19.4	11 7	5 23.51	+48 32.8	1.173	2.000	20.5	21.0
11 17	5 3.62	+24 7.7	1.676	2.617	8.3	19.2	11 17	5 12.09	+48 36.9	1.121	2.006	16.9	20.8
11 27	4 52.58	+24 15.0	1.651	2.628	3.7	18.9	11 27	4 56.49	+47 59.2	1.088	2.012	13.5	20.6
12 7	4 40.68	+24 16.2	1.655	2.638	1.4	18.8	12 7	4 39.42	+46 33.7	1.078	2.017	11.5	20.5
12 17	4 29.28	+24 12.4	1.688	2.648	5.9	19.1	12 17	4 23.95	+44 25.6	1.092	2.022	12.4	20.6
12 27	4 19.66	+24 6.4	1.750	2.657	10.1	19.4	12 27	4 12.53	+41 50.8	1.130	2.027	15.3	20.7
1 6	4 12.71	+24 1.3	1.836	2.665	13.7	19.6	1 6	4 6.22	+39 9.2	1.190	2.031	18.8	21.0
256898	2008 <i>DZ</i> ₅₁	12	4.4	266°97	6°0/ 1.9	18	355347	2007 <i>TU</i> ₁₃₉	12	4.4	22°70	9°4/ 6.9	17
10 28	5 9.07	+7 59.9	2.091	2.887	13.9	20.6	10 28	5 15.94	+40 59.4	1.375	2.160	20.3	20.3
11 7	5 4.78	+6 53.8	2.003	2.875	11.2	20.4	11 7	5 12.23	+42 15.4	1.315	2.169	17.1	20.1
11 17	4 58.31	+5 51.5	1.937	2.863	8.5	20.2	11 17	5 4.29	+43 13.0	1.273	2.179	13.7	19.9
11 27	4 50.26	+4 57.8	1.898	2.850	6.4	20.1	11 27	4 53.11	+43 43.5	1.252	2.190	10.6	19.8
12 7	4 41.48	+4 16.9	1.886	2.837	6.4	20.0	12 7	4 40.54	+43 41.7	1.254	2.201	9.4	19.7
12 17	4 32.91	+3 52.3	1.903	2.825	8.5	20.1	12 17	4 28.75	+43 8.5	1.281	2.214	10.6	19.8
12 27	4 25.52	+3 45.6	1.946	2.812	11.4	20.3	12 27	4 19.71	+42 11.4	1.331	2.228	13.5	20.0
1 6	4 20.04	+3 56.1	2.012	2.799	14.3	20.5	1 6	4 14.59	+41 1.7	1.403	2.242	16.6	20.3
271068	2003 <i>JN</i> ₂	12	4.4	355°26	12°7/ 2.6	18	263940	Malyshkina	12	4.4	107°45	0°3/ 4.5	18
10 28													

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
340922	2007 <i>DY</i> ₁₁₁	12	4.4	209°36'	9°3'/30.2	18	293978	2007 <i>TD</i> ₅₉	12	4.5	180°40'	4°3'/5.8	18
10 28	5 11.91	+ 2 59.8	1.820	2.609	15.9	20.7	10 28	5 17.56	+34 39.4	2.137	2.903	14.6	21.8
11 7	5 7.17	+ 1 2.5	1.747	2.606	13.3	20.6	11 7	5 11.77	+35 5.4	2.050	2.904	11.8	21.6
11 17	5 0.00	- 0 48.1	1.698	2.603	10.8	20.4	11 17	5 3.20	+35 20.8	1.985	2.905	8.7	21.4
11 27	4 51.09	- 2 23.7	1.673	2.599	9.4	20.3	11 27	4 52.57	+35 21.8	1.946	2.905	5.6	21.2
12 7	4 41.44	- 3 36.9	1.676	2.596	9.7	20.3	12 7	4 41.01	+35 6.8	1.936	2.904	4.3	21.1
12 17	4 32.14	- 4 22.8	1.705	2.591	11.7	20.4	12 17	4 29.83	+34 36.7	1.955	2.904	6.3	21.3
12 27	4 24.28	- 4 40.1	1.758	2.587	14.3	20.6	12 27	4 20.30	+33 55.7	2.002	2.902	9.4	21.4
1 6	4 18.61	- 4 31.2	1.832	2.582	16.8	20.8	1 6	4 13.28	+33 9.7	2.075	2.900	12.5	21.6
194975	2002 <i>AO</i> ₁₉₀	12	4.4	346°22'	0°5'/4.3	18	294996	2008 <i>ES</i> ₃₂	12	4.5	157°05'	0°4'/4.5	18
10 28	5 9.41	+22 4.9	1.270	2.105	19.0	20.3	10 28	5 18.13	+23 13.5	1.958	2.746	15.0	21.9
11 7	5 6.65	+21 55.6	1.194	2.097	14.9	20.0	11 7	5 12.05	+23 22.0	1.879	2.755	11.7	21.7
11 17	5 0.41	+21 41.8	1.138	2.090	9.9	19.7	11 17	5 3.28	+23 27.0	1.822	2.763	7.8	21.5
11 27	4 51.48	+21 23.7	1.103	2.083	4.4	19.4	11 27	4 52.57	+23 27.3	1.792	2.769	3.4	21.2
12 7	4 41.28	+21 2.9	1.094	2.078	1.7	19.2	12 7	4 41.04	+23 22.7	1.791	2.776	1.2	21.1
12 17	4 31.50	+20 42.3	1.110	2.074	7.5	19.5	12 17	4 29.92	+23 14.4	1.821	2.781	5.6	21.4
12 27	4 23.79	+20 26.0	1.150	2.071	12.8	19.8	12 27	4 20.41	+23 5.0	1.880	2.785	9.6	21.6
1 6	4 19.26	+20 17.4	1.211	2.069	17.5	20.1	1 6	4 13.35	+22 57.5	1.964	2.789	13.1	21.9
395651	2011 <i>WY</i> ₄₈	12	4.4	60°38'	2°1'/4.2	17	163484	2002 <i>SP</i> ₅	12	4.5	306°61'	4°7'/2.7	18
10 28	5 16.11	+15 10.6	1.651	2.455	16.7	20.9	10 28	5 7.23	+10 4.2	2.234	3.032	13.0	19.4
11 7	5 10.51	+15 29.9	1.596	2.481	12.9	20.7	11 7	5 3.30	+ 9 19.0	2.144	3.021	10.4	19.2
11 17	5 2.19	+15 53.0	1.563	2.506	8.6	20.6	11 17	4 57.37	+ 8 37.0	2.077	3.009	7.6	19.0
11 27	4 52.00	+16 19.9	1.556	2.532	4.1	20.4	11 27	4 49.98	+ 8 1.8	2.037	2.998	5.2	18.9
12 7	4 41.16	+16 50.1	1.577	2.558	2.5	20.3	12 7	4 41.92	+ 7 36.5	2.025	2.987	5.0	18.8
12 17	4 30.96	+17 23.1	1.627	2.584	6.4	20.6	12 17	4 34.05	+ 7 23.4	2.042	2.976	7.2	18.9
12 27	4 22.57	+17 58.8	1.705	2.610	10.4	20.9	12 27	4 27.26	+ 7 23.8	2.086	2.965	10.2	19.1
1 6	4 16.75	+18 37.3	1.806	2.636	13.9	21.2	1 6	4 22.22	+ 7 37.5	2.153	2.954	13.0	19.3
96116	5412 <i>T-2</i>	12	4.4	64°62'	1°8'/5.2	18	487945	2015 <i>TM</i> ₂₃₅	12	4.5	46°41'	2°7'/3.8	17
10 28	5 12.29	+29 17.2	2.041	2.831	14.4	19.8	10 28	5 10.95	+15 46.8	1.815	2.624	15.2	21.1
11 7	5 7.39	+29 2.5	1.968	2.843	11.3	19.6	11 7	5 6.53	+15 28.6	1.743	2.630	11.8	20.9
11 17	5 0.06	+28 38.6	1.917	2.855	7.7	19.4	11 17	4 59.63	+15 11.8	1.693	2.637	8.0	20.7
11 27	4 51.07	+28 4.8	1.893	2.867	3.9	19.2	11 27	4 50.98	+14 58.2	1.669	2.644	4.1	20.5
12 7	4 41.47	+27 22.3	1.897	2.879	1.9	19.1	12 7	4 41.60	+14 49.7	1.673	2.652	3.1	20.4
12 17	4 32.39	+26 34.0	1.931	2.892	5.2	19.4	12 17	4 32.63	+14 47.9	1.705	2.659	6.5	20.7
12 27	4 24.86	+25 44.3	1.994	2.904	8.9	19.6	12 27	4 25.16	+14 54.0	1.764	2.667	10.3	20.9
1 6	4 19.60	+24 57.7	2.081	2.917	12.1	19.8	1 6	4 19.94	+15 8.6	1.847	2.675	13.7	21.2
493224	2014 <i>UL</i> ₆₃	12	4.4	278°37'	2°8'/3.3	17	239025	2006 <i>DF</i> ₁₁₀	12	4.5	76°10'	6°5'/6.2	18
10 28	5 8.44	+16 4.6	2.300	3.099	12.7	20.9	10 28	5 19.32	+37 21.3	1.690	2.463	17.6	20.4
11 7	5 4.12	+15 22.4	2.212	3.095	9.9	20.7	11 7	5 13.86	+38 14.0	1.625	2.478	14.4	20.2
11 17	4 57.82	+14 39.4	2.149	3.090	6.7	20.5	11 17	5 4.89	+38 52.7	1.579	2.492	11.0	20.1
11 27	4 50.11	+13 58.0	2.113	3.086	3.7	20.3	11 27	4 53.37	+39 11.5	1.557	2.507	7.8	19.9
12 7	4 41.78	+13 20.9	2.106	3.081	3.1	20.3	12 7	4 40.79	+39 7.0	1.562	2.521	6.5	19.9
12 17	4 33.72	+12 50.6	2.128	3.077	5.9	20.4	12 17	4 28.87	+38 40.3	1.594	2.535	8.1	20.0
12 27	4 26.78	+12 29.5	2.179	3.072	9.1	20.6	12 27	4 19.19	+37 57.3	1.652	2.550	11.2	20.2
1 6	4 21.63	+12 18.7	2.255	3.068	12.1	20.8	1 6	4 12.75	+37 6.0	1.733	2.564	14.3	20.4
117584	2005 <i>EP</i> ₄₁	12	4.4	264°91'	5°8'/2.0	18	453735	2011 <i>BJ</i> ₆₇	12	4.5	33°95'	2°5'/5.5	17
10 28	5 7.07	+ 5 14.4	2.528	3.312	12.1	19.7	10 28	5 11.73	+31 24.0	2.174	2.957	13.9	20.8
11 7	5 2.88	+ 4 21.8	2.440	3.302	9.9	19.6	11 7	5 7.01	+31 16.8	2.090	2.958	11.0	20.6
11 17	4 56.92	+ 3 35.0	2.376	3.292	7.6	19.4	11 17	4 59.89	+30 59.6	2.028	2.961	7.7	20.4
11 27	4 49.71	+ 2 57.6	2.339	3.282	6.0	19.3	11 27	4 51.08	+30 31.1	1.993	2.963	4.3	20.2
12 7	4 41.93	+ 2 32.9	2.331	3.272	6.0	19.3	12 7	4 41.58	+29 51.6	1.986	2.965	2.6	20.1
12 17	4 34.33	+ 2 22.9	2.350	3.262	7.7	19.4	12 17	4 32.48	+29 3.8	2.009	2.968	5.2	20.3
12 27	4 27.67	+ 2 28.4	2.397	3.252	10.0	19.5	12 27	4 24.84	+28 11.8	2.061	2.970	8.7	20.5
1 6	4 22.56	+ 2 48.4	2.467	3.242	12.3	19.7	1 6	4 19.39	+27 20.4	2.138	2.973	11.8	20.7
228746	2002 <i>UQ</i> ₅₁	12	4.4	136°05'	0°4'/4.6	18	66045	1998 <i>QJ</i> ₈₄	12	4.5	134°00'	2°1'/3.6	18
10 28	5 10.55	+25 25.3	2.787	3.567	11.2	21.6	10 28	5 10.24	+16 1.4	2.930	3.713	10.6	20.9
11 7	5 5.37	+25 6.7	2.705	3.577	8.7	21.4	11 7	5 4.93	+15 32.3	2.855	3.728	8.2	20.7
11 17	4 58.44	+24 43.0	2.648	3.587	5.8	21.2	11 17	4 58.07	+15 3.3	2.806	3.743	5.5	20.6
11 27	4 50.32	+24 14.3	2.620	3.597	2.6	21.0	11 27	4 50.18	+14 35.8	2.785	3.758	2.9	20.4
12 7	4 41.75	+23 41.7	2.622	3.606	0.9	20.9	12 7	4 41.90	+14 11.5	2.796	3.772	2.3	20.4
12 17	4 33.51	+23 7.2	2.656	3.615	4.1	21.2	12 17	4 33.93	+13 51.9	2.838	3.786	4.6	20.6
12 27	4 26.34	+22 33.2	2.720	3.624	7.1	21.4	12 27	4 26.92	+13 38.3	2.910	3.798	7.3	20.7
1 6	4 20.81	+22 2.3	2.810	3.632	9.7	21.6	1 6	4 21.37	+13 31.7	3.008	3.811	9.6	20.9
228804	2003 <i>AE</i> ₆₃	12	4.4	249°22'	3°2'/3.8	18	336575	2009 <i>SM</i> ₁₂₉	12	4.5	303°28'	4°4'/5.2	18
10 28	5 13.89	+14 38.1	1.616	2.425	16.7	20.5	10 28	5 16.34	+30 7.9	1.461	2.266	18.4	20.3
11 7	5 9.26	+14 27.1	1.534	2.421	13.2	20.2	11 7	5 12.12	+30 57.6	1.378	2.258	14.8	20.1
11 17	5 1.71	+14 19.3	1.474	2.417	9.0	20.0	11 17	5 4.18	+31 40.0	1.314	2.251	10.6	19.8
11 27	4 51.96	+14 16.4	1.439	2.413	4.8	19.7	11 27	4 53.25	+32 9.9	1.274	2.243	6.3	19.6
12 7	4 41.17	+14 20.2	1.431	2.409	3.6	19.6	12 7	4 40.78	+32 23.1	1.260	2.236	4.5	19.4
12 17	4 30.69	+14 31.7	1.451	2.405	7.4	19.9	12 17	4 28.59	+32 19.0	1.272	2.229	7.8	19.6
12 27	4 21.88	+14 52.0	1.497	2.400	11.8	20.1	12 27	4 18.53	+32 1.8	1.310	2.222	12.3	19.9
1 6	4 15.70	+15 21.1	1.566	2.396	15.7	20.3	1 6	4 11.87	+31 38.2	1.370	2.216	16.5	20.1
517516	2014 <i>QB</i> ₄₅₂	12	4.5	114°74'	3°7'/3.2	18	36128	1999 <i>RK</i> ₁₅₁	12	4.5	346°00'	0°1'/4.5	18

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
175420	2006 <i>PT</i> ₂₀		12 4.5 114°45'	0°3'	4.5 18		294193	2007 <i>TQ</i> ₄₁₄		12 4.5 248°83'	3°0'	4.1 18	
10 28	5 13.54	+24 7.9	1.945	2.742	14.8	20.8	10 28	5 14.63	+12 34.3	1.845	2.642	15.4	20.2
11 7	5 8.48	+23 58.1	1.869	2.750	11.5	20.6	11 7	5 9.51	+12 50.2	1.760	2.640	12.1	20.0
11 17	5 0.89	+23 43.1	1.815	2.758	7.6	20.3	11 17	5 1.75	+13 12.4	1.698	2.638	8.4	19.7
11 27	4 51.52	+23 22.6	1.787	2.765	3.4	20.1	11 27	4 52.01	+13 41.7	1.663	2.636	4.5	19.5
12 7	4 41.44	+22 57.7	1.789	2.773	1.1	19.9	12 7	4 41.31	+14 18.2	1.656	2.633	3.3	19.4
12 17	4 31.80	+22 30.7	1.820	2.780	5.4	20.3	12 17	4 30.86	+15 1.0	1.678	2.631	6.7	19.6
12 27	4 23.71	+22 4.8	1.879	2.787	9.4	20.5	12 27	4 21.86	+15 49.5	1.728	2.628	10.6	19.9
1 6	4 17.93	+21 43.1	1.962	2.794	12.8	20.8	1 6	4 15.19	+16 42.7	1.803	2.626	14.2	20.1
99377	2001 <i>YN</i> ₇₃		12 4.5 174°68'	1°9'	4.1 18		2356	Hirons		12 4.5 249°07'	5°7'	1.9 18	
10 28	5 17.36	+17 25.1	1.524	2.333	17.6	19.8	10 28	5 7.11	+ 5 43.6	2.510	3.295	12.1	16.1
11 7	5 12.15	+17 27.2	1.447	2.334	13.8	19.5	11 7	5 2.90	+ 4 42.6	2.429	3.292	9.9	16.0
11 17	5 3.73	+17 30.9	1.391	2.336	9.3	19.3	11 17	4 56.96	+ 3 46.8	2.372	3.288	7.6	15.8
11 27	4 52.90	+17 36.4	1.359	2.336	4.3	19.0	11 27	4 49.79	+ 3 0.4	2.342	3.285	6.0	15.7
12 7	4 40.95	+17 44.3	1.355	2.337	2.5	18.9	12 7	4 42.10	+ 2 26.6	2.340	3.282	6.0	15.7
12 17	4 29.42	+17 55.4	1.379	2.337	7.1	19.2	12 17	4 34.64	+ 2 7.8	2.367	3.278	7.7	15.8
12 27	4 19.78	+18 11.2	1.429	2.337	11.9	19.4	12 27	4 28.16	+ 2 4.9	2.421	3.275	9.9	15.9
1 6	4 13.05	+18 32.8	1.503	2.336	16.0	19.7	1 6	4 23.22	+ 2 17.0	2.498	3.271	12.2	16.1
242193	2003 <i>OU</i> ₁		12 4.5 60°00'	4°1'	6.2 18		63596	2001 <i>QG</i> ₆₄		12 4.5 31°70'	6°2'	3.2 18	
10 28	5 15.95	+35 14.7	2.008	2.780	15.2	20.1	10 28	5 9.76	+ 9 30.2	1.422	2.244	18.0	19.0
11 7	5 10.28	+35 24.4	1.951	2.808	12.2	19.9	11 7	5 5.97	+ 8 43.4	1.371	2.260	14.3	18.8
11 17	5 1.97	+35 21.3	1.915	2.836	8.8	19.8	11 17	4 59.39	+ 8 4.3	1.340	2.278	10.3	18.6
11 27	4 51.93	+35 3.0	1.905	2.865	5.6	19.6	11 27	4 50.91	+ 7 38.0	1.333	2.296	7.0	18.4
12 7	4 41.36	+34 29.5	1.923	2.893	4.1	19.6	12 7	4 41.76	+ 7 27.8	1.351	2.315	6.5	18.5
12 17	4 31.51	+33 43.5	1.970	2.921	6.0	19.8	12 17	4 33.25	+ 7 35.5	1.395	2.335	9.2	18.7
12 27	4 23.48	+32 50.1	2.045	2.949	9.0	20.0	12 27	4 26.56	+ 8 0.5	1.463	2.356	12.8	18.9
1 6	4 17.96	+31 55.1	2.145	2.978	11.9	20.2	1 6	4 22.44	+ 8 40.2	1.553	2.377	16.1	19.2
471937	2013 <i>QQ</i> ₈₄		12 4.5 70°54'	3°5'	3.7 16		71008	1999 <i>XS</i> ₄₃		12 4.5 272°81'	0°4'	4.6 18	
10 28	5 18.19	+16 21.4	1.272	2.092	19.8	20.8	10 28	5 13.09	+25 6.8	1.922	2.720	14.9	19.1
11 7	5 12.67	+15 47.1	1.226	2.119	15.3	20.6	11 7	5 8.53	+24 48.0	1.819	2.700	11.7	18.9
11 17	5 3.83	+15 14.2	1.199	2.145	10.3	20.4	11 17	5 1.23	+24 21.9	1.738	2.681	7.9	18.6
11 27	4 52.78	+14 45.5	1.196	2.172	5.2	20.2	11 27	4 51.84	+23 48.3	1.683	2.661	3.6	18.3
12 7	4 41.09	+14 24.1	1.220	2.198	3.9	20.2	12 7	4 41.39	+23 8.1	1.657	2.641	1.2	18.1
12 17	4 30.38	+14 12.7	1.270	2.225	8.1	20.5	12 17	4 31.13	+22 24.2	1.660	2.621	5.8	18.4
12 27	4 22.01	+14 13.0	1.345	2.251	12.7	20.9	12 27	4 22.31	+21 41.1	1.691	2.600	10.2	18.6
1 6	4 16.78	+14 25.2	1.442	2.276	16.5	21.2	1 6	4 15.90	+21 3.0	1.746	2.580	14.1	18.8
415407	2013 <i>PJ</i> ₂₂		12 4.5 236°64'	3°6'	2.9 17		325655	2009 <i>SB</i> ₃₃₇		12 4.5 58°02'	6°8'	3.1 18	
10 28	5 8.03	+12 46.8	2.453	3.248	12.1	21.5	10 28	5 10.12	+ 3 17.5	2.022	2.809	14.6	20.0
11 7	5 3.68	+12 2.8	2.367	3.245	9.5	21.4	11 7	5 5.52	+ 2 45.4	1.957	2.818	12.0	19.8
11 17	4 57.49	+11 20.3	2.306	3.242	6.7	21.2	11 17	4 58.80	+ 2 23.8	1.913	2.828	9.2	19.7
11 27	4 50.02	+10 41.9	2.272	3.238	4.2	21.0	11 27	4 50.62	+ 2 16.4	1.895	2.838	7.2	19.6
12 7	4 41.98	+10 10.3	2.267	3.235	3.9	21.0	12 7	4 41.85	+ 2 25.8	1.904	2.848	6.9	19.6
12 17	4 34.18	+ 9 47.7	2.292	3.232	6.2	21.1	12 17	4 33.46	+ 2 52.5	1.941	2.858	8.7	19.7
12 27	4 27.42	+ 9 35.9	2.345	3.228	9.0	21.3	12 27	4 26.35	+ 3 35.4	2.004	2.869	11.2	19.9
1 6	4 22.30	+ 9 35.0	2.422	3.224	11.7	21.5	1 6	4 21.19	+ 4 31.7	2.090	2.879	13.7	20.1
312809	2011 <i>AJ</i> ₂₂		12 4.5 208°95'	3°0'	3.6 18		451265	2010 <i>NS</i> ₈₆		12 4.5 139°98'	0°9'	4.2 18	
10 28	5 10.13	+11 25.0	2.768	3.550	11.2	20.9	10 28	5 12.53	+20 16.5	2.362	3.151	12.7	22.3
11 7	5 5.12	+11 18.7	2.675	3.545	8.8	20.7	11 7	5 7.20	+20 2.0	2.283	3.161	9.8	22.1
11 17	4 58.38	+11 16.1	2.607	3.539	6.2	20.5	11 17	4 59.83	+19 45.5	2.229	3.171	6.5	21.9
11 27	4 50.40	+11 18.6	2.567	3.534	3.7	20.3	11 27	4 51.05	+19 27.4	2.202	3.180	2.9	21.7
12 7	4 41.85	+11 27.2	2.557	3.528	3.2	20.3	12 7	4 41.71	+19 9.0	2.206	3.189	1.4	21.6
12 17	4 33.45	+11 42.4	2.578	3.521	5.3	20.4	12 17	4 32.71	+18 51.9	2.240	3.197	4.9	21.9
12 27	4 25.96	+12 4.7	2.628	3.514	8.1	20.6	12 27	4 24.95	+18 38.2	2.303	3.205	8.3	22.1
1 6	4 19.97	+12 33.6	2.705	3.507	10.6	20.8	1 6	4 19.06	+18 29.6	2.393	3.212	11.2	22.3
520635	2014 <i>PE</i> ₇₃		12 4.5 103°31'	0°9'	4.8 18		470112	2006 <i>TF</i> ₁₀₃		12 4.5 117°55'	1°1'	4.1 16	
10 28	5 12.33	+25 16.3	2.197	2.988	13.5	21.6	10 28	5 17.80	+21 27.8	1.672	2.472	16.6	21.9
11 7	5 7.32	+25 21.4	2.119	2.997	10.5	21.4	11 7	5 11.95	+20 59.5	1.606	2.489	12.9	21.7
11 17	5 0.04	+25 21.6	2.065	3.005	7.0	21.2	11 17	5 3.25	+20 26.9	1.561	2.505	8.5	21.4
11 27	4 51.15	+25 16.2	2.037	3.014	3.2	21.0	11 27	4 52.58	+19 50.9	1.543	2.521	3.7	21.2
12 7	4 41.60	+25 5.3	2.039	3.022	1.3	20.8	12 7	4 41.21	+19 13.9	1.553	2.536	1.8	21.1
12 17	4 32.42	+24 50.2	2.070	3.030	4.9	21.1	12 17	4 30.51	+18 39.3	1.592	2.551	6.4	21.4
12 27	4 24.60	+24 33.6	2.130	3.039	8.5	21.3	12 27	4 21.69	+18 10.7	1.659	2.564	10.7	21.7
1 6	4 18.85	+24 18.3	2.216	3.046	11.6	21.6	1 6	4 15.55	+17 50.9	1.750	2.578	14.3	22.0
398030	2009 <i>DB</i> ₁₀₀		12 4.5 335°58'	9°0'	2.3 18		409348	2004 <i>XQ</i> ₇₀		12 4.5 321°76'	4°9'	6.3 18	
10 28	5 8.25	+ 3 48.4	1.478	2.291	17.9	20.4	10 28	5 11.85	+36 29.8	1.979	2.755	15.3	20.2
11 7	5 5.05	+ 2 45.9	1.403	2.281	14.8	20.2	11 7	5 7.76	+36 41.3	1.883	2.742	12.5	20.0
11 17	4 59.02	+ 1 54.3	1.348	2.270	11.7	19.9	11 17	5 0.79	+36 39.4	1.808	2.728	9.4	19.8
11 27	4 50.86	+ 1 20.6	1.316	2.261	9.4	19.8	11 27	4 51.65	+36 20.6	1.757	2.715	6.3	19.6
12 7	4 41.69	+ 1 10.4	1.307	2.252	9.3	19.8	12 7	4 41.49	+35 43.5	1.734	2.702	4.9	19.5
12 17	4 32.81	+ 1 26.6	1.324	2.245	11.6	19.9	12 17	4 31.65	+34 49.9	1.739	2.690	6.7	19.6
12 27	4 25.54	+ 2 8.4	1.363	2.237	14.8	20.0	12 27	4 23.46	+33 45.0	1.771	2.678	10.0	19.7
1 6	4 20.81	+ 3 11.8	1.423	2.231	18.1	20.2	1 6	4 17.85	+32 35.7	1.827	2.666	13.3	19.9
491370	2012 <i>BT</i> ₇₁		12 4.5 340°52'	4°2'	5.8 17		22981	Katz		12 4.5 167°11'	0°5'	4.3 18	
10 28	5 9.03												

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
112049	2002 <i>JP</i> ₈		12 4.5 55°65'	6°9'	3.0	18	189941	2003 <i>SJ</i> ₂₉₄		12 4.5 31°06'	5°6'	2.7	18
10 28	5 13.58	+ 9 57.2	1.256	2.080	19.8	18.7	10 28	5 8.02	+10 11.5	1.778	2.589	15.4	19.6
11 7	5 9.33	+ 8 56.0	1.202	2.092	15.7	18.5	11 7	5 4.17	+ 9 9.7	1.719	2.603	12.2	19.4
11 17	5 1.82	+ 8 2.0	1.167	2.105	11.4	18.3	11 17	4 58.03	+ 8 12.7	1.683	2.617	8.8	19.2
11 27	4 52.04	+ 7 21.2	1.155	2.119	7.8	18.1	11 27	4 50.33	+ 7 25.2	1.672	2.632	6.1	19.1
12 7	4 41.43	+ 6 58.9	1.168	2.132	7.3	18.1	12 7	4 42.08	+ 6 51.3	1.687	2.648	5.9	19.1
12 17	4 31.55	+ 6 57.6	1.206	2.146	10.4	18.3	12 17	4 34.31	+ 6 33.5	1.730	2.664	8.3	19.3
12 27	4 23.79	+ 7 17.4	1.267	2.160	14.3	18.6	12 27	4 27.99	+ 6 32.8	1.799	2.681	11.3	19.5
1 6	4 19.01	+ 7 55.3	1.349	2.174	18.0	18.9	1 6	4 23.78	+ 6 47.8	1.890	2.698	14.2	19.7
35130	1992 <i>LQ</i>		12 4.5 143°89'	0°3'	4.4	18	66306	1999 <i>JG</i> ₃₉		12 4.5 89°85'	2°5'	5.1	18
10 28	5 12.27	+20 32.0	2.374	3.164	12.6	18.0	10 28	5 21.74	+27 41.9	1.477	2.274	18.6	19.1
11 7	5 7.13	+20 48.0	2.290	3.168	9.8	17.8	11 7	5 15.52	+28 4.5	1.421	2.299	14.6	18.9
11 17	4 59.90	+21 3.3	2.230	3.172	6.5	17.6	11 17	5 5.86	+28 18.8	1.385	2.324	9.9	18.7
11 27	4 51.14	+21 17.3	2.198	3.176	2.8	17.4	11 27	4 53.81	+28 21.7	1.374	2.348	5.0	18.5
12 7	4 41.71	+21 29.8	2.196	3.180	1.0	17.3	12 7	4 40.94	+28 12.1	1.390	2.371	2.7	18.4
12 17	4 32.52	+21 41.1	2.224	3.183	4.7	17.6	12 17	4 28.94	+27 52.2	1.434	2.394	6.7	18.7
12 27	4 24.51	+21 52.3	2.282	3.187	8.2	17.8	12 27	4 19.30	+27 27.0	1.505	2.417	11.1	19.0
1 6	4 18.37	+22 4.7	2.365	3.190	11.2	18.0	1 6	4 12.90	+27 2.1	1.600	2.439	14.9	19.3
739	Mandeville		12 4.5 261°00'	9°6'	1.8	18	230586	2003 <i>DE</i> ₁₉		12 4.5 265°52'	0°3'	4.6	18
10 28	5 10.76	- 4 42.3	2.134	2.892	14.9	13.3	10 28	5 14.62	+23 57.4	1.755	2.557	15.9	21.3
11 7	5 6.13	- 5 36.6	2.051	2.879	12.9	13.1	11 7	5 10.02	+23 50.9	1.655	2.539	12.6	21.1
11 17	4 59.33	- 6 17.0	1.989	2.865	11.0	13.0	11 17	5 2.42	+23 38.8	1.577	2.521	8.5	20.8
11 27	4 50.93	- 6 37.6	1.950	2.852	9.8	12.9	11 27	4 52.47	+23 20.5	1.525	2.503	3.8	20.5
12 7	4 41.77	- 6 34.3	1.938	2.838	9.8	12.8	12 7	4 41.31	+22 56.4	1.500	2.484	1.3	20.2
12 17	4 32.80	- 6 5.4	1.951	2.824	11.1	12.9	12 17	4 30.31	+22 28.7	1.504	2.466	6.3	20.5
12 27	4 24.97	- 5 12.1	1.989	2.810	13.2	13.0	12 27	4 20.89	+22 1.2	1.536	2.446	11.0	20.8
1 6	4 19.04	- 3 58.3	2.050	2.795	15.4	13.1	1 6	4 14.11	+21 38.2	1.591	2.427	15.1	21.0
260547	2005 <i>EP</i> ₁₈₂		12 4.5 108°86'	4°5'	5.7	18	291668	2006 <i>HV</i> ₇₃		12 4.5 225°78'	1°2'	4.1	18
10 28	5 21.18	+32 52.0	1.590	2.375	18.0	20.3	10 28	5 9.44	+18 33.2	2.730	3.519	11.2	21.4
11 7	5 15.24	+33 23.8	1.524	2.390	14.5	20.1	11 7	5 4.73	+18 25.1	2.634	3.512	8.7	21.2
11 17	5 5.79	+33 43.6	1.478	2.406	10.4	19.9	11 17	4 58.22	+18 16.3	2.563	3.504	5.8	21.0
11 27	4 53.81	+33 46.9	1.456	2.421	6.3	19.7	11 27	4 50.43	+18 7.5	2.519	3.496	2.7	20.8
12 7	4 40.83	+33 31.6	1.462	2.435	4.6	19.7	12 7	4 42.03	+17 59.5	2.506	3.488	1.6	20.7
12 17	4 28.60	+32 59.6	1.495	2.450	7.2	19.8	12 17	4 33.80	+17 53.4	2.524	3.479	4.5	20.9
12 27	4 18.66	+32 16.8	1.556	2.463	11.1	20.1	12 27	4 26.51	+17 50.7	2.571	3.471	7.6	21.1
1 6	4 11.98	+31 30.8	1.640	2.476	14.7	20.4	1 6	4 20.78	+17 52.3	2.644	3.462	10.4	21.3
320117	2007 <i>EW</i> ₁₇₁		12 4.5 337°90'	0°1'	4.5	17	164724	1998 <i>QM</i> ₇₈		12 4.5 61°83'	4°3'	2.8	18
10 28	5 10.21	+23 26.2	1.929	2.734	14.6	21.1	10 28	5 12.27	+15 53.2	1.659	2.471	16.3	19.2
11 7	5 6.11	+23 19.0	1.844	2.730	11.4	20.9	11 7	5 7.59	+14 32.3	1.597	2.485	12.7	19.0
11 17	4 59.49	+23 7.3	1.780	2.725	7.6	20.7	11 17	5 0.34	+13 9.9	1.557	2.499	8.7	18.8
11 27	4 51.04	+22 50.9	1.743	2.721	3.3	20.4	11 27	4 51.35	+11 51.1	1.543	2.514	5.2	18.7
12 7	4 41.75	+22 30.9	1.734	2.718	1.1	20.2	12 7	4 41.77	+10 41.5	1.557	2.528	4.8	18.7
12 17	4 32.77	+22 9.1	1.753	2.715	5.5	20.5	12 17	4 32.80	+ 9 45.9	1.599	2.543	7.9	18.9
12 27	4 25.21	+21 48.6	1.800	2.712	9.6	20.8	12 27	4 25.52	+ 9 7.7	1.667	2.557	11.6	19.2
1 6	4 19.90	+21 32.3	1.871	2.709	13.1	21.0	1 6	4 20.64	+ 8 47.4	1.758	2.572	14.9	19.4
287676	2003 <i>QP</i> ₁		12 4.5 85°05'	4°8'	2.8	18	94312	2001 <i>FP</i> ₃₇		12 4.5 11°33'	7°8'	6.5	18
10 28	5 9.08	+ 9 19.4	2.252	3.045	13.1	20.7	10 28	5 15.40	+40 44.8	1.843	2.605	16.7	18.0
11 7	5 4.53	+ 8 33.9	2.183	3.056	10.4	20.6	11 7	5 11.01	+41 53.5	1.767	2.608	14.1	17.8
11 17	4 58.07	+ 7 53.1	2.138	3.067	7.6	20.4	11 17	5 3.23	+42 48.2	1.712	2.610	11.2	17.6
11 27	4 50.30	+ 7 20.1	2.119	3.078	5.3	20.3	11 27	4 52.84	+43 22.4	1.681	2.614	8.8	17.5
12 7	4 42.03	+ 6 57.9	2.129	3.088	5.0	20.3	12 7	4 41.21	+43 31.7	1.674	2.618	7.8	17.5
12 17	4 34.12	+ 6 48.1	2.168	3.099	7.1	20.5	12 17	4 29.98	+43 15.9	1.695	2.622	9.0	17.5
12 27	4 27.36	+ 6 51.6	2.234	3.110	9.8	20.6	12 27	4 20.75	+42 39.4	1.740	2.627	11.4	17.7
1 6	4 22.37	+ 7 7.6	2.325	3.120	12.3	20.8	1 6	4 14.61	+41 50.0	1.809	2.633	14.1	17.9
42012	2000 <i>YC</i> ₆₀		12 4.5 350°92'	5°8'	2.9	18	149655	2004 <i>FM</i> ₆₄		12 4.5 320°81'	0°0'	4.3	18
10 28	5 8.54	+ 7 44.0	1.914	2.716	14.8	18.5	10 28	5 12.72	+21 57.3	1.330	2.156	18.8	20.1
11 7	5 4.59	+ 7 3.9	1.837	2.714	11.9	18.3	11 7	5 9.32	+22 8.5	1.248	2.145	14.8	19.9
11 17	4 58.38	+ 6 30.6	1.782	2.711	8.8	18.1	11 17	5 2.36	+22 17.4	1.184	2.134	9.9	19.6
11 27	4 50.54	+ 6 7.8	1.753	2.709	6.3	18.0	11 27	4 52.56	+22 23.0	1.144	2.123	4.4	19.2
12 7	4 41.97	+ 5 59.0	1.750	2.708	6.1	18.0	12 7	4 41.31	+22 24.9	1.129	2.113	1.5	19.0
12 17	4 33.70	+ 6 5.7	1.775	2.707	8.3	18.1	12 17	4 30.32	+22 24.3	1.140	2.104	7.3	19.3
12 27	4 26.72	+ 6 28.3	1.826	2.706	11.3	18.3	12 27	4 21.35	+22 24.0	1.176	2.095	12.8	19.6
1 6	4 21.78	+ 7 5.0	1.900	2.705	14.3	18.5	1 6	4 15.63	+22 27.4	1.233	2.087	17.5	19.9
2210	Lois		12 4.5 64°74'	1°7'	4.1	18	11044	1990 <i>DV</i>		12 4.5 295°52'	0°4'	4.4	18
10 28	5 17.15	+18 56.6	1.392	2.207	18.6	17.4	10 28	5 11.29	+23 35.5	1.858	2.662	15.1	17.6
11 7	5 11.79	+18 45.9	1.342	2.233	14.4	17.2	11 7	5 7.24	+23 7.3	1.753	2.639	11.8	17.3
11 17	5 3.28	+18 34.5	1.312	2.259	9.5	17.0	11 17	5 0.48	+22 32.0	1.671	2.616	8.0	17.1
11 27	4 52.64	+18 23.3	1.307	2.285	4.3	16.8	11 27	4 51.60	+21 50.2	1.615	2.593	3.5	16.7
12 7	4 41.33	+18 13.7	1.328	2.311	2.3	16.7	12 7	4 41.64	+21 3.6	1.586	2.570	1.3	16.5
12 17	4 30.87	+18 7.6	1.377	2.337	7.0	17.1	12 17	4 31.84	+20 15.7	1.587	2.547	6.1	16.8
12 27	4 22.59	+18 7.4	1.452	2.363	11.5	17.4	12 27	4 23.47	+19 31.0	1.614	2.524	10.6	17.0
1 6	4 17.26	+18 14.4	1.550	2.388	15.4	17.7	1 6	4 17.48	+18 53.8	1.666	2.502	14.6	17.2
363398	2003 <i>JC</i> ₃		12 4.5 204°63'	3°6'	5.3	17	446017	2013 <i>CP</i> ₅₃		12 4.5 303°68'	0°2'	4.6	17
10 28	5 15.14	+31 19.4	2										

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
108109	2001 <i>FP</i> ₁₉₂	12	4.5	300°49	0°0/ 4.3	18	491624	2012 <i>TR</i> ₁₂₈	12	4.5	130°35	2°1/ 4.9	18
10 28	5 11.67	+23 47.5	1.675	2.485	16.2	20.1	10 28	5 17.91	+26 56.4	1.785	2.576	16.1	21.7
11 7	5 7.80	+23 30.4	1.580	2.469	12.7	19.8	11 7	5 12.32	+27 23.5	1.710	2.585	12.7	21.5
11 17	5 0.96	+23 6.8	1.507	2.453	8.6	19.5	11 17	5 3.75	+27 44.8	1.656	2.594	8.6	21.3
11 27	4 51.84	+22 36.7	1.458	2.437	3.8	19.2	11 27	4 53.00	+27 57.6	1.628	2.602	4.4	21.0
12 7	4 41.58	+22 1.6	1.437	2.421	1.3	19.0	12 7	4 41.29	+28 0.4	1.629	2.610	2.4	20.9
12 17	4 31.54	+21 24.5	1.443	2.405	6.4	19.3	12 17	4 30.03	+27 54.0	1.659	2.618	6.0	21.2
12 27	4 23.13	+20 49.7	1.476	2.390	11.1	19.5	12 27	4 20.58	+27 41.6	1.716	2.625	10.1	21.4
1 6	4 17.35	+20 21.4	1.533	2.375	15.3	19.7	1 6	4 13.84	+27 27.6	1.798	2.632	13.7	21.7
440822	2006 <i>RZ</i> ₄	12	4.5	39°66	2°9/ 3.6	17	31078	1996 <i>XJ</i> ₅	12	4.5	186°29	2°1/ 5.5	18
10 28	5 13.14	+18 53.8	1.332	2.158	18.8	20.9	10 28	5 13.76	+30 59.8	2.589	3.358	12.2	18.9
11 7	5 8.63	+17 57.9	1.290	2.187	14.4	20.7	11 7	5 8.24	+30 49.2	2.497	3.358	9.7	18.8
11 17	5 1.12	+17 0.1	1.269	2.218	9.5	20.5	11 17	5 0.61	+30 29.8	2.428	3.357	6.8	18.6
11 27	4 51.67	+16 4.4	1.272	2.249	4.7	20.3	11 27	4 51.51	+30 0.5	2.386	3.356	3.7	18.4
12 7	4 41.74	+15 15.1	1.301	2.281	3.4	20.3	12 7	4 41.79	+29 21.8	2.375	3.354	2.2	18.3
12 17	4 32.74	+14 36.5	1.357	2.313	7.5	20.6	12 17	4 32.41	+28 35.6	2.395	3.352	4.6	18.4
12 27	4 25.86	+14 11.6	1.438	2.346	11.8	21.0	12 27	4 24.27	+27 45.6	2.445	3.350	7.7	18.6
1 6	4 21.78	+14 1.0	1.541	2.379	15.5	21.3	1 6	4 18.04	+26 55.9	2.521	3.347	10.6	18.8
41007	1999 <i>UN</i> ₁₄	12	4.5	79°20	1°1/ 4.2	18	414381	2008 <i>US</i> ₃₆₁	12	4.5	54°40	0°7/ 4.8	17
10 28	5 15.37	+19 27.7	1.712	2.516	16.2	19.3	10 28	5 10.54	+26 44.7	2.244	3.035	13.2	21.0
11 7	5 10.05	+19 25.2	1.650	2.536	12.5	19.2	11 7	5 5.91	+26 18.9	2.165	3.042	10.3	20.9
11 17	5 2.02	+19 21.8	1.611	2.555	8.2	18.9	11 17	4 59.12	+25 45.8	2.109	3.049	6.9	20.7
11 27	4 52.13	+19 17.7	1.597	2.575	3.7	18.7	11 27	4 50.86	+25 5.5	2.080	3.057	3.2	20.4
12 7	4 41.55	+19 13.7	1.611	2.594	1.8	18.6	12 7	4 42.03	+24 19.9	2.080	3.064	1.1	20.3
12 17	4 31.57	+19 11.3	1.654	2.613	6.1	19.0	12 17	4 33.61	+23 31.6	2.111	3.072	4.8	20.6
12 27	4 23.33	+19 12.3	1.724	2.632	10.2	19.2	12 27	4 26.52	+22 44.5	2.170	3.079	8.3	20.8
1 6	4 17.62	+19 18.4	1.819	2.651	13.7	19.5	1 6	4 21.41	+22 2.0	2.255	3.087	11.4	21.0
386702	2009 <i>WN</i> ₇₃	12	4.5	336°05	4°0/ 5.2	18	439802	2015 <i>HG</i> ₁₇₁	12	4.5	190°03	4°7/ 2.9	18
10 28	5 16.03	+29 17.3	1.440	2.247	18.5	20.7	10 28	5 14.41	+11 48.9	1.937	2.731	14.9	21.8
11 7	5 11.87	+30 5.7	1.361	2.243	14.8	20.5	11 7	5 9.13	+10 57.7	1.854	2.730	11.8	21.6
11 17	5 4.03	+30 47.3	1.301	2.240	10.5	20.2	11 17	5 1.41	+10 8.8	1.795	2.729	8.4	21.4
11 27	4 53.30	+31 17.1	1.266	2.237	6.0	19.9	11 27	4 51.92	+9 25.8	1.762	2.727	5.4	21.3
12 7	4 41.10	+31 31.3	1.256	2.234	4.2	19.8	12 7	4 41.67	+8 52.5	1.758	2.724	5.1	21.2
12 17	4 29.26	+31 29.6	1.273	2.231	7.6	20.0	12 17	4 31.75	+8 31.7	1.783	2.720	7.8	21.4
12 27	4 19.56	+31 15.9	1.315	2.229	12.2	20.3	12 27	4 23.24	+8 25.3	1.835	2.716	11.2	21.6
1 6	4 13.22	+30 56.7	1.379	2.227	16.3	20.5	1 6	4 16.93	+8 33.2	1.910	2.712	14.4	21.8
43568	2001 <i>FV</i> ₁₃₄	12	4.5	171°87	0°4/ 4.3	18	80238	1999 <i>VH</i> ₂₁₈	12	4.5	257°26	8°3/ 30.4	18
10 28	5 10.62	+23 7.3	2.649	3.435	11.6	18.6	10 28	5 13.94	+9 1.4	1.650	2.453	16.7	18.6
11 7	5 5.61	+22 36.6	2.561	3.437	9.0	18.4	11 7	5 9.24	+6 49.3	1.563	2.439	13.7	18.4
11 17	4 58.77	+22 1.4	2.498	3.439	5.9	18.2	11 17	5 1.75	+4 35.5	1.500	2.425	10.5	18.2
11 27	4 50.67	+21 22.3	2.462	3.440	2.6	18.0	11 27	4 52.16	+2 29.1	1.463	2.410	8.5	18.0
12 7	4 42.05	+20 41.0	2.458	3.442	1.0	17.9	12 7	4 41.58	+0 39.7	1.454	2.396	8.9	18.0
12 17	4 33.73	+20 0.0	2.484	3.443	4.4	18.1	12 17	4 31.30	-0 44.5	1.472	2.380	11.6	18.1
12 27	4 26.49	+19 21.9	2.541	3.443	7.6	18.4	12 27	4 22.60	-1 38.9	1.515	2.365	15.0	18.3
1 6	4 20.92	+18 49.2	2.624	3.443	10.4	18.5	1 6	4 16.38	-2 3.7	1.579	2.349	18.3	18.5
432967	2012 <i>KQ</i> ₂	12	4.5	209°08	1°0/ 4.3	17	113457	2002 <i>SB</i> ₄₉	12	4.5	58°38	6°7/ 5.7	18
10 28	5 17.91	+19 22.3	1.774	2.570	16.0	22.2	10 28	5 19.51	+36 12.4	1.732	2.505	17.2	19.1
11 7	5 12.36	+19 28.5	1.684	2.565	12.5	21.9	11 7	5 14.17	+37 32.6	1.664	2.517	14.1	18.9
11 17	5 3.86	+19 34.5	1.616	2.559	8.4	21.7	11 17	5 5.32	+38 41.8	1.616	2.529	10.8	18.7
11 27	4 53.10	+19 39.8	1.574	2.552	3.8	21.4	11 27	4 53.80	+39 33.1	1.594	2.541	7.8	18.6
12 7	4 41.22	+19 44.6	1.561	2.545	1.7	21.2	12 7	4 41.03	+40 1.4	1.598	2.554	6.7	18.6
12 17	4 29.58	+19 49.5	1.578	2.536	6.3	21.5	12 17	4 28.71	+40 6.0	1.629	2.566	8.4	18.7
12 27	4 19.55	+19 56.5	1.622	2.527	10.9	21.7	12 27	4 18.50	+39 51.1	1.686	2.579	11.4	18.9
1 6	4 12.15	+20 7.6	1.690	2.518	14.8	22.0	1 6	4 11.50	+39 23.9	1.767	2.592	14.4	19.1
202522	2006 <i>CO</i> ₄₁	12	4.5	204°96	2°4/ 5.5	18	155194	2005 <i>UK</i> ₃₈₁	12	4.5	40°53	0°2/ 4.5	18
10 28	5 12.00	+31 11.8	2.766	3.535	11.6	21.6	10 28	5 11.26	+22 43.8	1.906	2.710	14.8	20.6
11 7	5 6.84	+31 18.3	2.671	3.531	9.2	21.4	11 7	5 6.85	+22 33.7	1.830	2.715	11.5	20.4
11 17	4 59.70	+31 17.4	2.599	3.526	6.5	21.2	11 17	4 59.95	+22 19.5	1.776	2.721	7.6	20.2
11 27	4 51.12	+31 7.6	2.554	3.522	3.7	21.0	11 27	4 51.29	+22 1.4	1.748	2.727	3.3	19.9
12 7	4 41.90	+30 48.6	2.540	3.517	2.4	20.9	12 7	4 41.89	+21 40.6	1.748	2.733	1.1	19.8
12 17	4 32.91	+30 21.5	2.556	3.512	4.5	21.1	12 17	4 32.89	+21 19.2	1.778	2.739	5.5	20.1
12 27	4 25.03	+29 49.0	2.602	3.506	7.4	21.2	12 27	4 25.39	+21 0.0	1.835	2.745	9.5	20.3
1 6	4 18.92	+29 14.6	2.675	3.500	10.0	21.4	1 6	4 20.13	+20 45.7	1.916	2.752	13.0	20.6
230189	2001 <i>SD</i> ₅₆	12	4.5	89°88	1°9/ 4.1	18	209834	2005 <i>GS</i> ₁₅₂	12	4.5	249°42	2°7/ 3.6	18
10 28	5 16.88	+18 35.2	1.629	2.433	16.8	20.5	10 28	5 11.78	+16 25.4	2.015	2.816	14.2	20.7
11 7	5 11.25	+18 17.5	1.570	2.455	13.0	20.3	11 7	5 7.19	+15 53.6	1.923	2.805	11.1	20.5
11 17	5 2.82	+17 59.0	1.532	2.477	8.6	20.1	11 17	5 0.20	+15 21.1	1.853	2.795	7.6	20.2
11 27	4 52.48	+17 40.7	1.521	2.498	4.0	19.9	11 27	4 51.43	+14 50.0	1.809	2.784	4.0	20.0
12 7	4 41.48	+17 24.4	1.537	2.519	2.4	19.8	12 7	4 41.83	+14 22.8	1.795	2.772	3.1	19.9
12 17	4 31.16	+17 12.3	1.582	2.539	6.5	20.1	12 17	4 32.44	+14 2.0	1.809	2.761	6.4	20.1
12 27	4 22.72	+17 6.6	1.654	2.559	10.7	20.4	12 27	4 24.36	+13 50.1	1.852	2.749	10.2	20.3
1 6	4 16.91	+17 8.8	1.750	2.579	14.3	20.7	1 6	4 18.37	+13 48.2	1.918	2.737	13.6	20.5
83107	2001 <i>QZ</i> ₂₃₈	12	4.5	220°79	1°7/ 5.0	18	74382	1998 <i>XZ</i> ₁₅	12	4.5	37°36	2°7/ 6.1	

EPHEMERIDES

12 4.5

12 4.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V		
451341	2010 VR ₁₈₄	12	4.5	28°56'	0°5'	4.6	16	54205	2000 HY ₈₂	12	4.5	47°17'	2°2'	4.9	18
10 28	5 11.18	+23 59.9	1.741	2.550	15.7	21.5	10 28	5 15.80	+25 33.8	1.607	2.412	17.0	18.8		
11 7	5 7.03	+23 59.0	1.670	2.557	12.2	21.3	11 7	5 10.87	+26 18.2	1.546	2.429	13.3	18.6		
11 17	5 0.19	+23 53.3	1.620	2.565	8.1	21.1	11 17	5 2.87	+26 58.3	1.506	2.447	9.0	18.4		
11 27	4 51.42	+23 42.4	1.595	2.573	3.6	20.8	11 27	4 52.65	+27 30.8	1.490	2.466	4.5	18.2		
12 7	4 41.86	+23 26.8	1.598	2.582	1.2	20.7	12 7	4 41.54	+27 53.6	1.503	2.484	2.4	18.1		
12 17	4 32.75	+23 8.6	1.629	2.591	5.7	21.0	12 17	4 30.98	+28 6.6	1.543	2.503	6.2	18.4		
12 27	4 25.29	+22 50.9	1.687	2.601	9.9	21.3	12 27	4 22.36	+28 12.4	1.610	2.523	10.4	18.7		
1 6	4 20.28	+22 36.8	1.769	2.611	13.6	21.5	1 6	4 16.57	+28 14.9	1.701	2.543	14.0	19.0		
278128	2007 CB ₄₀	12	4.5	292°16'	0°4'	4.4	18	145789	1998 QJ ₃₁	12	4.5	86°95'	1°1'	4.3	18
10 28	5 13.73	+22 9.5	1.509	2.324	17.5	21.4	10 28	5 19.10	+19 52.9	1.556	2.359	17.5	20.2		
11 7	5 9.63	+22 2.4	1.425	2.316	13.7	21.2	11 7	5 13.11	+19 50.7	1.501	2.385	13.6	20.1		
11 17	5 2.30	+21 51.2	1.360	2.308	9.2	20.9	11 17	5 4.13	+19 47.1	1.466	2.411	8.9	19.8		
11 27	4 52.50	+21 35.8	1.320	2.299	4.0	20.6	11 27	4 53.11	+19 42.0	1.458	2.436	3.9	19.6		
12 7	4 41.48	+21 17.1	1.307	2.291	1.5	20.4	12 7	4 41.42	+19 36.3	1.477	2.460	1.7	19.5		
12 17	4 30.78	+20 57.5	1.321	2.284	6.8	20.7	12 17	4 30.50	+19 31.7	1.525	2.484	6.4	19.9		
12 27	4 21.93	+20 40.6	1.361	2.276	11.8	21.0	12 27	4 21.60	+19 30.4	1.600	2.508	10.8	20.2		
1 6	4 15.98	+20 29.9	1.424	2.268	16.1	21.2	1 6	4 15.53	+19 34.4	1.699	2.531	14.5	20.5		
195666	2002 OT ₅	12	4.5	121°07'	2°4'	3.5	18	72827	Maxaub	12	4.5	223°18'	4°7'	3.6	18
10 28	5 9.69	+15 34.0	2.728	3.515	11.2	21.6	10 28	5 13.65	+ 8 33.7	2.073	2.860	14.3	19.4		
11 7	5 4.71	+14 59.1	2.654	3.530	8.7	21.5	11 7	5 8.51	+ 8 21.8	1.984	2.854	11.5	19.2		
11 17	4 58.09	+14 24.5	2.606	3.544	5.9	21.3	11 17	5 1.04	+ 8 16.8	1.918	2.847	8.3	19.0		
11 27	4 50.37	+13 52.0	2.586	3.558	3.2	21.1	11 27	4 51.83	+ 8 21.3	1.878	2.840	5.5	18.8		
12 7	4 42.24	+13 23.5	2.596	3.571	2.7	21.1	12 7	4 41.80	+ 8 36.9	1.867	2.832	4.9	18.7		
12 17	4 34.43	+13 0.8	2.637	3.584	5.0	21.3	12 17	4 31.96	+ 9 4.4	1.885	2.824	7.3	18.9		
12 27	4 27.63	+12 45.5	2.708	3.597	7.7	21.5	12 27	4 23.36	+ 9 43.2	1.931	2.815	10.6	19.0		
1 6	4 22.36	+12 38.1	2.805	3.609	10.2	21.7	1 6	4 16.80	+10 32.0	2.002	2.807	13.7	19.2		
482642	2013 AV ₁₁₅	12	4.5	11°60'	5°6'	3.0	18	154424	2003 BM ₄₂	12	4.5	259°54'	4°4'	3.5	18
10 28	5 7.27	+14 10.0	1.178	2.021	19.6	19.9	10 28	5 13.17	+12 42.8	1.624	2.434	16.7	20.1		
11 7	5 4.84	+13 3.6	1.120	2.024	15.4	19.6	11 7	5 8.75	+12 12.5	1.543	2.429	13.2	19.8		
11 17	4 59.12	+11 58.6	1.081	2.029	10.8	19.4	11 17	5 1.49	+11 45.7	1.484	2.424	9.3	19.6		
11 27	4 51.04	+11 1.4	1.064	2.036	6.6	19.2	11 27	4 52.10	+11 25.6	1.448	2.418	5.5	19.4		
12 7	4 42.03	+10 18.1	1.071	2.044	6.1	19.2	12 7	4 41.71	+11 15.2	1.440	2.413	4.8	19.3		
12 17	4 33.64	+ 9 53.4	1.103	2.053	9.7	19.4	12 17	4 31.64	+11 16.7	1.460	2.408	8.1	19.5		
12 27	4 27.31	+ 9 49.3	1.157	2.064	14.1	19.7	12 27	4 23.18	+11 31.1	1.505	2.402	12.2	19.7		
1 6	4 23.94	+10 4.5	1.232	2.076	18.1	20.0	1 6	4 17.26	+11 58.1	1.573	2.397	15.9	19.9		
74579	1999 NG ₃₀	12	4.5	58°50'	3°9'	4.0	18	177559	2004 FR ₉₈	12	4.5	17°25'	3°8'	3.6	18
10 28	5 16.09	+13 47.0	1.260	2.083	19.8	19.0	10 28	5 10.15	+14 30.6	1.592	2.410	16.6	19.8		
11 7	5 11.43	+13 38.2	1.204	2.098	15.5	18.8	11 7	5 6.34	+13 59.3	1.522	2.413	13.0	19.6		
11 17	5 3.35	+13 35.0	1.168	2.113	10.6	18.5	11 17	4 59.81	+13 30.3	1.473	2.417	8.9	19.4		
11 27	4 52.86	+13 39.5	1.155	2.129	5.7	18.3	11 27	4 51.31	+13 6.4	1.448	2.421	5.0	19.1		
12 7	4 41.44	+13 52.8	1.167	2.145	4.3	18.3	12 7	4 41.99	+12 50.6	1.450	2.426	4.1	19.1		
12 17	4 30.75	+14 15.6	1.206	2.161	8.3	18.6	12 17	4 33.10	+12 45.0	1.480	2.432	7.5	19.3		
12 27	4 22.29	+14 47.8	1.269	2.178	13.0	18.9	12 27	4 25.85	+12 51.2	1.535	2.438	11.6	19.6		
1 6	4 16.97	+15 28.4	1.354	2.195	17.0	19.2	1 6	4 21.07	+13 9.0	1.612	2.444	15.2	19.8		
164953	1999 XP ₂₅₂	12	4.5	83°23'	1°1'	4.2	18	343864	2011 HU ₆₀	12	4.5	137°13'	1°0'	4.3	18
10 28	5 13.26	+20 32.8	1.758	2.564	15.7	21.1	10 28	5 16.30	+20 19.4	1.917	2.711	15.0	21.9		
11 7	5 8.53	+20 15.7	1.684	2.571	12.2	20.9	11 7	5 10.64	+20 8.9	1.843	2.723	11.7	21.7		
11 17	5 1.14	+19 55.7	1.633	2.579	8.1	20.7	11 17	5 2.42	+19 56.2	1.791	2.734	7.7	21.5		
11 27	4 51.84	+19 33.9	1.608	2.586	3.6	20.4	11 27	4 52.40	+19 41.7	1.766	2.744	3.4	21.3		
12 7	4 41.77	+19 11.7	1.610	2.593	1.7	20.3	12 7	4 41.65	+19 26.5	1.771	2.754	1.6	21.1		
12 17	4 32.15	+18 51.6	1.641	2.601	6.1	20.6	12 17	4 31.36	+19 12.4	1.805	2.763	5.7	21.4		
12 27	4 24.18	+18 36.3	1.700	2.608	10.3	20.9	12 27	4 22.65	+19 1.8	1.867	2.772	9.7	21.7		
1 6	4 18.64	+18 28.2	1.782	2.615	13.9	21.1	1 6	4 16.29	+18 56.8	1.954	2.780	13.2	21.9		
281318	2007 TQ ₁₀₃	12	4.5	49°19'	3°8'	2.8	18	76687	2000 HA ₇₃	12	4.5	285°21'	0°2'	4.6	18
10 28	5 7.49	+12 41.3	2.406	3.203	12.3	20.5	10 28	5 14.86	+20 34.5	1.873	2.672	15.2	19.5		
11 7	5 3.28	+11 44.7	2.332	3.211	9.6	20.3	11 7	5 10.05	+21 11.0	1.778	2.660	11.9	19.3		
11 17	4 57.28	+10 49.6	2.283	3.218	6.8	20.1	11 17	5 2.42	+21 48.8	1.704	2.648	8.0	19.0		
11 27	4 50.06	+ 9 59.1	2.261	3.226	4.4	20.0	11 27	4 52.57	+22 26.3	1.658	2.636	3.6	18.7		
12 7	4 42.37	+ 9 16.4	2.268	3.234	4.1	20.0	12 7	4 41.54	+23 1.7	1.639	2.624	1.2	18.5		
12 17	4 35.00	+ 8 44.0	2.304	3.241	6.3	20.2	12 17	4 30.59	+23 34.0	1.651	2.612	5.9	18.8		
12 27	4 28.70	+ 8 23.7	2.369	3.249	9.0	20.3	12 27	4 21.05	+24 3.5	1.690	2.600	10.2	19.1		
1 6	4 24.04	+ 8 15.7	2.458	3.258	11.6	20.5	1 6	4 13.95	+24 31.9	1.754	2.588	14.0	19.3		
111435	2001 XY ₂₁₇	12	4.5	123°93'	0°1'	4.5	18	446187	2013 FV ₁₇	12	4.5	114°30'	2°8'	3.6	18
10 28	5 13.01	+23 58.0	2.199	2.989	13.5	20.0	10 28	5 11.01	+16 20.2	1.965	2.769	14.4	21.0		
11 7	5 7.80	+23 32.5	2.121	2.999	10.5	19.8	11 7	5 6.53	+15 46.1	1.885	2.770	11.2	20.8		
11 17	5 0.38	+23 1.5	2.067	3.009	6.9	19.6	11 17	4 59.72	+15 11.7	1.828	2.770	7.6	20.6		
11 27	4 51.44	+22 25.6	2.041	3.019	3.0	19.4	11 27	4 51.23	+14 39.3	1.797	2.771	4.0	20.4		
12 7	4 41.93	+21 46.5	2.044	3.028	1.0	19.2	12 7	4 42.03	+14 11.5	1.794	2.772	3.2	20.3		
12 17	4 32.83	+21 6.8	2.077	3.037	5.0	19.5	12 17	4 33.17	+13 50.8	1.821	2.772	6.4	20.5		
12 27	4 25.12	+20 29.9	2.140	3.045	8.6	19.8	12 27	4 25.66	+13 39.3	1.874	2.773	10.1	20.7		
1 6	4 19.44	+19 58.7	2.228	3.054	11.7	20.0	1 6	4 20.27	+13 38.0	1.952	2.774	13.3	20.9		
44550	1999 BL ₂₃	12	4.5	24°18'	0°6'	4.3	18	335493	2005 XU ₅₅	12	4.5	66°54'	0°9'	4.8	18

EPHEMERIDES

12 4.5

12 4.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
247472	2002 <i>JJ</i> ₆₁	12	4.5	194°02'	1.1°/ 4.8	18	209697	2005 <i>EV</i> ₃₃	12	4.5	319°90'	6.1°/ 6.3	18
10 28	5 16.02	+25 11.6	2.288	3.069	13.3	21.1	10 28	5 15.27	+36 57.3	1.659	2.441	17.5	20.5
11 7	5 10.32	+25 27.0	2.195	3.067	10.4	20.9	11 7	5 11.11	+37 30.1	1.573	2.433	14.4	20.2
11 17	5 2.22	+25 38.3	2.126	3.064	7.0	20.7	11 17	5 3.46	+37 48.8	1.507	2.426	10.9	20.0
11 27	4 52.36	+25 44.1	2.085	3.060	3.3	20.5	11 27	4 53.10	+37 47.9	1.463	2.418	7.6	19.8
12 7	4 41.65	+25 43.8	2.073	3.056	1.4	20.3	12 7	4 41.44	+37 24.5	1.446	2.411	6.1	19.7
12 17	4 31.18	+25 37.9	2.092	3.052	5.0	20.5	12 17	4 30.18	+36 39.7	1.455	2.404	8.0	19.8
12 27	4 22.00	+25 28.7	2.141	3.046	8.6	20.8	12 27	4 20.98	+35 39.5	1.491	2.398	11.5	20.0
1 6	4 14.92	+25 19.2	2.216	3.040	11.8	21.0	1 6	4 14.95	+34 32.5	1.549	2.391	15.1	20.2
301762	2010 <i>JM</i> ₄₃	12	4.5	132°04'	3.3°/ 3.2	18	440106	2003 <i>GJ</i> ₃₇	12	4.5	234°32'	1.0°/ 4.8	18
10 28	5 13.07	+15 32.0	2.124	2.918	13.8	21.6	10 28	5 15.76	+25 28.4	1.928	2.720	15.1	22.2
11 7	5 7.78	+14 38.0	2.051	2.929	10.7	21.4	11 7	5 10.65	+25 31.2	1.832	2.709	11.9	22.0
11 17	5 0.34	+13 43.4	2.001	2.940	7.3	21.2	11 17	5 2.74	+25 28.4	1.758	2.698	8.0	21.7
11 27	4 51.44	+12 51.4	1.980	2.951	4.2	21.0	11 27	4 52.69	+25 18.5	1.710	2.687	3.8	21.5
12 7	4 41.99	+12 5.3	1.988	2.961	3.6	21.0	12 7	4 41.58	+25 1.5	1.691	2.675	1.4	21.3
12 17	4 32.97	+11 28.1	2.025	2.970	6.4	21.2	12 17	4 30.70	+24 38.9	1.702	2.662	5.7	21.5
12 27	4 25.29	+11 2.2	2.091	2.980	9.7	21.4	12 27	4 21.32	+24 14.1	1.740	2.649	10.0	21.8
1 6	4 19.61	+10 48.6	2.182	2.988	12.7	21.6	1 6	4 14.42	+23 51.2	1.803	2.636	13.8	22.0
160863	2001 <i>HG</i> ₂₀	12	4.5	215°46'	5.7°/ 2.0	18	368012	2012 <i>FS</i> ₆₃	12	4.5	193°80'	0.1°/ 4.5	17
10 28	5 8.38	- 0 23.5	3.319	4.070	10.2	21.4	10 28	5 11.08	+22 17.3	2.573	3.360	11.8	22.1
11 7	5 3.54	- 1 0.9	3.228	4.060	8.5	21.3	11 7	5 6.16	+22 12.6	2.482	3.358	9.2	21.9
11 17	4 57.31	- 1 30.6	3.161	4.050	6.9	21.2	11 17	4 59.29	+22 5.1	2.415	3.356	6.1	21.7
11 27	4 50.10	- 1 49.9	3.121	4.039	5.9	21.1	11 27	4 51.03	+21 54.7	2.376	3.354	2.7	21.5
12 7	4 42.43	- 1 56.4	3.111	4.027	5.9	21.1	12 7	4 42.15	+21 42.1	2.368	3.352	0.9	21.3
12 17	4 34.88	- 1 49.3	3.130	4.015	7.0	21.1	12 17	4 33.50	+21 28.5	2.390	3.349	4.4	21.6
12 27	4 28.05	- 1 28.3	3.176	4.002	8.6	21.2	12 27	4 25.91	+21 15.8	2.441	3.346	7.7	21.8
1 6	4 22.41	- 0 54.8	3.248	3.988	10.3	21.3	1 6	4 20.04	+21 6.0	2.519	3.343	10.6	22.0
159187	2005 <i>UY</i> ₁₀₇	12	4.5	271°08'	0.7°/ 4.6	18	520643	2014 <i>PX</i> ₇₆	12	4.5	175°70'	2.9°/ 3.8	18
10 28	5 16.07	+22 39.8	1.709	2.511	16.3	21.1	10 28	5 12.26	+11 50.9	2.616	3.397	11.8	22.1
11 7	5 11.39	+23 5.3	1.610	2.493	12.9	20.9	11 7	5 6.90	+11 48.1	2.530	3.399	9.3	21.9
11 17	5 3.55	+23 29.6	1.531	2.475	8.7	20.6	11 17	4 59.71	+11 49.2	2.468	3.401	6.5	21.7
11 27	4 53.16	+23 50.8	1.478	2.456	4.0	20.3	11 27	4 51.20	+11 55.3	2.434	3.402	3.8	21.5
12 7	4 41.36	+24 7.4	1.453	2.437	1.4	20.0	12 7	4 42.11	+12 7.3	2.430	3.403	3.1	21.5
12 17	4 29.59	+24 18.9	1.457	2.418	6.4	20.3	12 17	4 33.22	+12 25.6	2.458	3.403	5.4	21.7
12 27	4 19.39	+24 27.4	1.487	2.399	11.2	20.6	12 27	4 25.34	+12 50.4	2.515	3.403	8.3	21.8
1 6	4 11.94	+24 35.7	1.542	2.379	15.5	20.8	1 6	4 19.09	+13 21.4	2.598	3.402	10.9	22.0
305047	2007 <i>UV</i> ₂₁	12	4.5	157°10'	1.4°/ 4.9	18	121395	1999 <i>TQ</i> ₁₂₂	12	4.5	83°12'	3.2°/ 3.7	18
10 28	5 16.12	+25 47.7	2.213	2.995	13.7	21.1	10 28	5 16.49	+14 57.5	1.807	2.604	15.7	20.1
11 7	5 10.41	+26 8.3	2.130	3.001	10.7	20.9	11 7	5 10.55	+14 27.1	1.755	2.635	12.2	20.0
11 17	5 2.27	+26 24.6	2.070	3.007	7.2	20.7	11 17	5 2.18	+13 58.6	1.726	2.665	8.2	19.8
11 27	4 52.37	+26 34.7	2.038	3.013	3.5	20.5	11 27	4 52.24	+13 34.3	1.723	2.695	4.4	19.6
12 7	4 41.68	+26 37.8	2.035	3.018	1.6	20.4	12 7	4 41.82	+13 16.4	1.748	2.724	3.5	19.6
12 17	4 31.31	+26 34.5	2.063	3.022	5.1	20.6	12 17	4 32.08	+13 6.8	1.803	2.753	6.6	19.9
12 27	4 22.33	+26 27.2	2.120	3.026	8.7	20.8	12 27	4 24.03	+13 6.8	1.886	2.781	10.2	20.2
1 6	4 15.52	+26 18.8	2.203	3.029	11.8	21.0	1 6	4 18.32	+13 16.4	1.993	2.809	13.3	20.4
442722	2012 <i>VM</i> ₃₁	12	4.5	140°26'	1.4°/ 4.1	18	301963	2000 <i>EF</i> ₃₄	12	4.5	294°22'	2.7°/ 3.9	17
10 28	5 15.33	+21 5.3	1.868	2.666	15.2	21.4	10 28	5 11.43	+16 22.1	1.780	2.589	15.4	20.6
11 7	5 9.94	+20 29.2	1.792	2.675	11.8	21.2	11 7	5 7.42	+16 4.7	1.682	2.569	12.2	20.3
11 17	5 1.98	+19 48.7	1.739	2.683	7.8	21.0	11 17	5 0.69	+15 47.7	1.605	2.550	8.3	20.0
11 27	4 52.22	+19 5.3	1.713	2.691	3.5	20.8	11 27	4 51.84	+15 33.1	1.554	2.530	4.3	19.8
12 7	4 41.75	+18 21.5	1.715	2.698	1.9	20.7	12 7	4 41.87	+15 22.6	1.531	2.510	3.1	19.6
12 17	4 31.78	+17 40.7	1.748	2.705	6.0	20.9	12 17	4 32.01	+15 18.4	1.535	2.491	6.9	19.8
12 27	4 23.42	+17 6.7	1.808	2.711	10.1	21.2	12 27	4 23.54	+15 22.4	1.567	2.471	11.2	20.0
1 6	4 17.43	+16 41.9	1.892	2.717	13.6	21.4	1 6	4 17.43	+15 35.6	1.621	2.452	15.2	20.2
517892	2015 <i>TG</i> ₄₅	12	4.5	156°74'	2.0°/ 3.9	18	451280	2010 <i>RQ</i> ₁₀₂	12	4.5	67°85'	1.4°/ 4.1	17
10 28	5 13.05	+17 49.8	2.138	2.933	13.7	22.4	10 28	5 11.37	+20 7.2	1.967	2.770	14.4	22.0
11 7	5 7.89	+17 23.3	2.058	2.938	10.6	22.2	11 7	5 6.86	+19 41.8	1.888	2.773	11.2	21.8
11 17	5 0.51	+16 55.6	2.001	2.943	7.1	22.0	11 17	4 59.96	+19 13.5	1.832	2.776	7.4	21.6
11 27	4 51.56	+16 28.4	1.972	2.947	3.5	21.8	11 27	4 51.37	+18 43.6	1.801	2.779	3.4	21.3
12 7	4 41.96	+16 3.5	1.972	2.951	2.4	21.7	12 7	4 42.07	+18 14.2	1.800	2.782	1.9	21.2
12 17	4 32.71	+15 43.2	2.001	2.955	5.7	21.9	12 17	4 33.14	+17 47.8	1.827	2.785	5.7	21.5
12 27	4 24.78	+15 29.6	2.060	2.958	9.3	22.1	12 27	4 25.62	+17 27.0	1.883	2.789	9.6	21.7
1 6	4 18.87	+15 24.0	2.143	2.961	12.4	22.4	1 6	4 20.26	+17 14.0	1.963	2.792	13.0	22.0
247305	2001 <i>TS</i> ₈₄	12	4.5	29°94'	2.7°/ 3.7	18	521725	2015 <i>RC</i> ₂₆₉	12	4.5	36°50'	3.6°/ 3.5	17
10 28	5 10.27	+17 47.3	1.550	2.370	16.8	20.4	10 28	5 10.90	+15 26.3	1.665	2.479	16.1	21.7
11 7	5 6.44	+17 9.6	1.487	2.381	13.0	20.2	11 7	5 6.77	+14 44.8	1.596	2.486	12.6	21.4
11 17	4 59.84	+16 30.8	1.444	2.392	8.7	20.0	11 17	5 0.02	+14 3.8	1.549	2.492	8.6	21.2
11 27	4 51.32	+15 53.7	1.427	2.404	4.4	19.8	11 27	4 51.42	+13 26.6	1.526	2.499	4.8	21.0
12 7	4 42.06	+15 21.3	1.436	2.416	3.2	19.7	12 7	4 42.07	+12 56.6	1.531	2.507	4.0	21.0
12 17	4 33.36	+14 57.0	1.473	2.429	7.1	20.0	12 17	4 33.18	+12 36.6	1.564	2.515	7.3	21.2
12 27	4 26.39	+14 43.2	1.535	2.443	11.2	20.3	12 27	4 25.91	+12 28.7	1.622	2.523	11.2	21.5
1 6	4 21.94	+14 41.0	1.620	2.457	14.9	20.5	1 6	4 21.01	+12 33.3	1.704	2.531	14.7	21.7
373624	2002 <i>GP</i> ₁₈₅	12	4.5	358°17'	4.9°/ 5.1								

EPHEMERIDES

12 4.5

12 4.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
14066	1996 FA ₄		12 4.5 322°06	4.9/ 5.1	18		77318	Danieltsui		12 4.6 209°91	3.3/ 3.7	18	
10 28	5 16.10	+30 35.0	1.664	2.458	17.0	18.1	10 28	5 14.83	+15 57.8	1.698	2.503	16.2	19.9
11 7	5 11.75	+31 46.4	1.576	2.449	13.7	17.8	11 7	5 9.96	+15 23.2	1.614	2.499	12.8	19.7
11 17	5 3.98	+32 53.1	1.509	2.440	10.0	17.6	11 17	5 2.28	+14 48.5	1.553	2.495	8.7	19.4
11 27	4 53.42	+33 48.9	1.466	2.431	6.3	17.3	11 27	4 52.50	+14 16.2	1.517	2.491	4.7	19.2
12 7	4 41.35	+34 28.9	1.451	2.422	5.0	17.2	12 7	4 41.76	+13 49.2	1.509	2.486	3.7	19.1
12 17	4 29.37	+34 50.9	1.463	2.414	7.6	17.4	12 17	4 31.37	+13 30.5	1.529	2.481	7.4	19.3
12 27	4 19.20	+34 57.0	1.501	2.407	11.6	17.6	12 27	4 22.59	+13 22.6	1.576	2.476	11.6	19.6
1 6	4 12.09	+34 52.7	1.562	2.400	15.3	17.8	1 6	4 16.34	+13 26.4	1.647	2.470	15.3	19.8
99774	2002 JL ₁₁₂		12 4.5 125°92	1.9/ 5.1	18		359836	2011 UB ₃₃₃		12 4.6 330°23	1.0/ 4.2	18	
10 28	5 16.55	+27 38.3	2.050	2.834	14.6	20.0	10 28	5 9.85	+22 1.1	1.557	2.377	16.8	20.3
11 7	5 10.87	+27 52.4	1.975	2.847	11.4	19.9	11 7	5 6.53	+21 33.3	1.471	2.365	13.1	20.1
11 17	5 2.62	+27 59.9	1.923	2.859	7.8	19.7	11 17	5 0.23	+20 59.8	1.405	2.354	8.8	19.8
11 27	4 52.54	+27 59.0	1.897	2.870	3.9	19.4	11 27	4 51.67	+20 21.7	1.364	2.343	3.9	19.5
12 7	4 41.72	+27 49.3	1.900	2.881	2.1	19.3	12 7	4 42.03	+19 41.6	1.350	2.333	1.8	19.3
12 17	4 31.34	+27 32.0	1.933	2.892	5.3	19.6	12 17	4 32.70	+19 3.1	1.362	2.324	6.7	19.6
12 27	4 22.53	+27 10.3	1.995	2.902	9.0	19.8	12 27	4 25.06	+18 30.7	1.400	2.315	11.5	19.9
1 6	4 16.08	+26 48.3	2.082	2.912	12.3	20.0	1 6	4 20.08	+18 7.8	1.461	2.307	15.7	20.1
21460	Ryozo		12 4.5 174°56	1.0/ 4.3	18		455437	2003 SJ ₂₂		12 4.6 37°32	6.7/ 1.9	18	
10 28	5 17.34	+20 22.1	1.948	2.739	14.9	19.6	10 28	5 8.47	+7 38.9	1.884	2.687	14.9	20.7
11 7	5 11.55	+20 11.9	1.864	2.743	11.7	19.4	11 7	5 4.45	+6 14.5	1.825	2.700	12.0	20.5
11 17	5 3.13	+19 59.3	1.804	2.745	7.8	19.1	11 17	4 58.26	+4 55.8	1.788	2.713	9.1	20.3
11 27	4 52.80	+19 44.7	1.770	2.747	3.5	18.9	11 27	4 50.60	+3 48.7	1.777	2.727	7.0	20.2
12 7	4 41.63	+19 28.9	1.765	2.748	1.6	18.7	12 7	4 42.43	+2 58.0	1.794	2.741	7.0	20.3
12 17	4 30.83	+19 13.9	1.791	2.749	5.8	19.0	12 17	4 34.70	+2 27.0	1.838	2.756	9.0	20.4
12 27	4 21.56	+19 2.2	1.845	2.748	9.9	19.3	12 27	4 28.33	+2 16.5	1.907	2.771	11.7	20.6
1 6	4 14.66	+18 56.1	1.924	2.747	13.4	19.5	1 6	4 23.95	+2 25.0	1.998	2.786	14.3	20.8
453599	2010 MA ₉₉		12 4.5 125°56	2.8/ 3.4	18		294243	2007 UC ₄₆		12 4.6 32°29	1.8/ 4.1	18	
10 28	5 12.57	+14 44.6	2.494	3.280	12.2	22.4	10 28	5 11.79	+19 20.0	1.434	2.257	17.8	20.7
11 7	5 7.05	+14 6.7	2.424	3.298	9.5	22.2	11 7	5 7.91	+19 1.0	1.372	2.267	13.8	20.5
11 17	4 59.72	+13 29.5	2.379	3.315	6.5	22.1	11 17	5 0.99	+18 40.3	1.330	2.278	9.2	20.2
11 27	4 51.17	+12 55.2	2.362	3.332	3.7	21.9	11 27	4 51.91	+18 19.5	1.312	2.290	4.2	20.0
12 7	4 42.18	+12 26.0	2.375	3.348	3.1	21.9	12 7	4 42.00	+18 0.6	1.320	2.303	2.4	19.9
12 17	4 33.58	+12 3.9	2.419	3.364	5.5	22.1	12 17	4 32.67	+17 46.3	1.355	2.316	6.9	20.2
12 27	4 26.13	+11 50.3	2.492	3.378	8.4	22.3	12 27	4 25.27	+17 39.1	1.416	2.329	11.5	20.5
1 6	4 20.40	+11 45.9	2.591	3.393	11.0	22.5	1 6	4 20.63	+17 40.7	1.499	2.344	15.4	20.8
478498	2012 SO ₃		12 4.5 35°33	2.8/ 5.1	18		333814	2012 EU ₁₀		12 4.6 115°36	0.0/ 4.6	18	
10 28	5 15.12	+26 56.3	1.259	2.081	19.9	20.3	10 28	5 11.66	+22 50.3	2.287	3.079	13.0	21.3
11 7	5 11.15	+27 31.2	1.202	2.095	15.6	20.1	11 7	5 6.82	+22 50.3	2.206	3.084	10.1	21.1
11 17	5 3.46	+27 58.9	1.164	2.109	10.7	19.8	11 17	4 59.84	+22 47.2	2.148	3.090	6.7	20.9
11 27	4 53.05	+28 15.9	1.149	2.125	5.4	19.6	11 27	4 51.33	+22 40.7	2.118	3.096	2.9	20.7
12 7	4 41.57	+28 20.2	1.160	2.141	3.0	19.5	12 7	4 42.18	+22 31.2	2.117	3.101	0.9	20.5
12 17	4 30.83	+28 13.2	1.196	2.158	7.3	19.8	12 17	4 33.33	+22 20.1	2.146	3.106	4.8	20.8
12 27	4 22.51	+27 59.3	1.256	2.176	12.1	20.1	12 27	4 25.72	+22 9.4	2.204	3.112	8.3	21.1
1 6	4 17.59	+27 44.2	1.339	2.194	16.3	20.4	1 6	4 20.05	+22 1.2	2.288	3.117	11.4	21.3
11299	Annafreud		12 4.5 160°47	1.6/ 4.9	18		99782	2002 JA ₁₂₁		12 4.6 168°59	1.0/ 4.4	18	
10 28	5 14.09	+26 37.1	2.067	2.856	14.3	18.5	10 28	5 16.91	+17 29.1	2.100	2.887	14.1	19.9
11 7	5 9.06	+26 51.4	1.983	2.858	11.2	18.3	11 7	5 11.08	+17 53.3	2.015	2.891	11.0	19.7
11 17	5 1.51	+27 0.2	1.922	2.860	7.6	18.0	11 17	5 2.80	+18 19.6	1.953	2.894	7.4	19.5
11 27	4 52.10	+27 1.9	1.887	2.862	3.7	17.8	11 27	4 52.69	+18 47.4	1.919	2.896	3.3	19.3
12 7	4 41.86	+26 56.0	1.881	2.863	1.8	17.7	12 7	4 41.73	+19 15.9	1.915	2.898	1.5	19.1
12 17	4 31.93	+26 43.4	1.904	2.865	5.3	17.9	12 17	4 31.01	+19 44.7	1.942	2.900	5.4	19.4
12 27	4 23.46	+26 27.1	1.956	2.866	9.1	18.2	12 27	4 21.65	+20 14.1	1.998	2.901	9.3	19.6
1 6	4 17.25	+26 10.4	2.033	2.867	12.4	18.4	1 6	4 14.46	+20 44.9	2.080	2.902	12.6	19.9
340081	2005 WC ₂₅		12 4.5 263°35	1.2/ 4.9	18		105253	2000 QF ₁₀		12 4.6 28°89	2.2/ 5.1	18	
10 28	5 14.81	+26 38.7	1.689	2.491	16.5	21.2	10 28	5 13.52	+27 34.9	0.992	1.834	22.6	18.5
11 7	5 10.29	+26 31.2	1.598	2.481	13.0	21.0	11 7	5 10.64	+27 35.7	0.941	1.845	17.7	18.2
11 17	5 2.68	+26 15.6	1.528	2.470	8.8	20.7	11 17	5 3.44	+27 24.7	0.906	1.857	12.0	18.0
11 27	4 52.73	+25 50.6	1.483	2.460	4.2	20.4	11 27	4 53.12	+27 0.0	0.892	1.870	5.8	17.7
12 7	4 41.64	+25 16.5	1.466	2.450	1.6	20.2	12 7	4 41.63	+26 22.7	0.901	1.885	2.5	17.5
12 17	4 30.86	+24 36.2	1.477	2.439	6.2	20.5	12 17	4 31.15	+25 37.6	0.934	1.900	8.0	17.9
12 27	4 21.83	+23 54.5	1.515	2.428	10.9	20.7	12 27	4 23.54	+24 52.5	0.990	1.917	13.6	18.3
1 6	4 15.55	+23 16.6	1.576	2.418	15.0	20.9	1 6	4 19.80	+24 14.3	1.065	1.934	18.4	18.6
376593	2013 PC ₂₈		12 4.5 99°62	3.2/ 3.8	15		71525	2000 CL ₇₉		12 4.6 23°97	0.2/ 4.5	18	
10 28	5 18.31	+16 35.5	1.470	2.279	18.1	21.5	10 28	5 10.12	+22 23.9	1.920	2.726	14.6	20.0
11 7	5 12.65	+15 59.0	1.412	2.299	14.1	21.3	11 7	5 6.01	+22 16.3	1.845	2.731	11.3	19.8
11 17	5 3.93	+15 22.7	1.375	2.319	9.5	21.0	11 17	4 59.47	+22 5.1	1.792	2.737	7.5	19.6
11 27	4 53.11	+14 49.4	1.363	2.338	4.9	20.8	11 27	4 51.21	+21 50.7	1.765	2.743	3.3	19.3
12 7	4 41.58	+14 22.0	1.378	2.357	3.7	20.8	12 7	4 42.23	+21 33.9	1.766	2.750	1.1	19.2
12 17	4 30.79	+14 3.6	1.421	2.375	7.6	21.1	12 17	4 33.62	+21 16.6	1.796	2.757	5.4	19.5
12 27	4 22.07	+13 56.4	1.491	2.392	11.9	21.4	12 27	4 26.46	+21 1.6	1.853	2.765	9.3	19.8
1 6	4 16.20	+14 1.1	1.583	2.409	15.7	21.7	1 6	4 21.50	+20 51.1	1.935	2.773	12.8	20.0
258189	2001 SX ₂₁₈		12 4.6 66°01	0.9/ 4.8	18		265075	2003 SN ₁₄₅		12 4.6 59°19	5.7/ 6.4	17	
10 28	5 14.81	+24 55.6	1.794	2.593	15.7	21.3	10 28	5 15.33	+				

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
28934	Meagancurrie	12 4.6	22°51	1.4/ 4.2	18		25362	1999 TH ₂₄	12 4.6	334°63	21°1/ 18.7	18	
10 28	5 10.71	+19 47.6	1.843	2.652	15.0	18.7	10 28	4 59.22	- 6 10.7	0.963	1.799	23.5	17.0
11 7	5 6.54	+19 30.3	1.767	2.655	11.7	18.5	11 7	4 59.52	-10 9.7	0.900	1.767	21.9	16.8
11 17	4 59.87	+19 10.9	1.712	2.658	7.8	18.2	11 17	4 56.31	-13 57.5	0.854	1.736	21.1	16.6
11 27	4 51.40	+18 50.5	1.684	2.662	3.5	18.0	11 27	4 50.22	-17 10.8	0.826	1.708	21.5	16.5
12 7	4 42.17	+18 30.9	1.683	2.666	1.9	17.9	12 7	4 42.54	-19 29.0	0.815	1.681	23.2	16.5
12 17	4 33.32	+18 14.0	1.711	2.670	5.9	18.2	12 17	4 34.96	-20 39.0	0.819	1.657	25.6	16.5
12 27	4 25.94	+18 2.5	1.766	2.674	9.9	18.4	12 27	4 29.31	-20 38.5	0.834	1.635	28.3	16.6
1 6	4 20.82	+17 57.9	1.845	2.679	13.4	18.6	1 6	4 26.94	-19 35.4	0.859	1.616	30.9	16.7
62052	2000 RA ₆₉	12 4.6	28°02	0°9/ 4.3	18		98096	2000 RR ₇₇	12 4.6	261°09	2°7/ 5.2	18	
10 28	5 12.77	+21 6.7	1.427	2.248	18.0	18.8	10 28	5 17.41	+28 20.6	1.472	2.276	18.3	19.9
11 7	5 8.83	+20 54.8	1.359	2.253	14.0	18.5	11 7	5 12.98	+28 38.4	1.383	2.265	14.6	19.6
11 17	5 1.72	+20 39.7	1.310	2.259	9.3	18.3	11 17	5 4.90	+28 48.0	1.314	2.254	10.2	19.3
11 27	4 52.29	+20 22.1	1.286	2.265	4.1	18.0	11 27	4 53.90	+28 45.9	1.269	2.243	5.3	19.0
12 7	4 41.89	+20 3.3	1.288	2.272	1.7	17.8	12 7	4 41.39	+28 30.2	1.250	2.231	2.9	18.8
12 17	4 32.03	+19 46.1	1.317	2.279	6.8	18.2	12 17	4 29.17	+28 2.4	1.258	2.219	7.2	19.1
12 27	4 24.13	+19 33.7	1.371	2.287	11.6	18.5	12 27	4 19.00	+27 27.6	1.292	2.207	12.2	19.3
1 6	4 19.11	+19 28.7	1.448	2.295	15.8	18.8	1 6	4 12.14	+26 52.5	1.348	2.195	16.7	19.5
98998	2001 DU ₄₆	12 4.6	200°22	0°1/ 4.5	18		148246	2000 EK ₁₀₉	12 4.6	268°96	6°9/ 6.9	17	
10 28	5 14.13	+23 13.2	2.248	3.035	13.3	20.5	10 28	5 17.82	+40 56.2	1.976	2.729	16.1	20.1
11 7	5 8.83	+22 59.0	2.156	3.032	10.4	20.3	11 7	5 12.81	+41 31.7	1.882	2.718	13.5	19.9
11 17	5 1.24	+22 40.2	2.087	3.028	6.9	20.1	11 17	5 4.49	+41 52.3	1.808	2.707	10.7	19.7
11 27	4 51.99	+22 16.9	2.046	3.023	3.1	19.9	11 27	4 53.62	+41 52.3	1.758	2.696	8.1	19.5
12 7	4 41.98	+21 50.2	2.034	3.018	1.0	19.7	12 7	4 41.51	+41 28.4	1.734	2.684	6.9	19.5
12 17	4 32.25	+21 22.0	2.053	3.013	5.0	20.0	12 17	4 29.75	+40 41.0	1.738	2.673	8.1	19.5
12 27	4 23.81	+20 55.3	2.101	3.007	8.8	20.2	12 27	4 19.87	+39 35.4	1.768	2.661	10.9	19.6
1 6	4 17.40	+20 32.9	2.175	3.000	12.0	20.4	1 6	4 12.97	+38 20.1	1.823	2.650	13.9	19.8
19979	1989 VJ	12 4.6	354°09	0°3/ 4.7	18		459357	2012 HN ₇₉	12 4.6	230°55	1°0/ 4.2	18	
10 28	5 11.97	+25 21.6	1.392	2.213	18.3	16.4	10 28	5 10.17	+20 4.5	2.768	3.554	11.1	22.1
11 7	5 8.48	+24 57.9	1.316	2.210	14.4	16.1	11 7	5 5.38	+19 44.5	2.667	3.543	8.6	21.9
11 17	5 1.65	+24 25.1	1.259	2.208	9.7	15.9	11 17	4 58.79	+19 22.2	2.591	3.531	5.8	21.7
11 27	4 52.32	+23 43.2	1.227	2.206	4.3	15.5	11 27	4 50.90	+18 58.5	2.543	3.520	2.6	21.4
12 7	4 41.90	+22 54.6	1.220	2.205	1.4	15.3	12 7	4 42.41	+18 34.4	2.525	3.508	1.4	21.3
12 17	4 31.99	+22 3.7	1.240	2.204	6.9	15.7	12 17	4 34.08	+18 11.7	2.539	3.495	4.5	21.5
12 27	4 24.12	+21 16.4	1.285	2.204	11.9	16.0	12 27	4 26.69	+17 52.3	2.582	3.482	7.6	21.7
1 6	4 19.27	+20 37.8	1.353	2.205	16.3	16.3	1 6	4 20.85	+17 38.1	2.652	3.469	10.4	21.9
193229	2000 RF ₈₀	12 4.6	129°54	1°7/ 5.2	18		98883	2001 BY ₂₈	12 4.6	236°42	7°3/ 2.7	18	
10 28	5 18.17	+28 42.9	2.055	2.833	14.7	20.6	10 28	5 12.01	+ 3 45.0	1.927	2.713	15.3	19.3
11 7	5 12.02	+28 31.7	1.981	2.849	11.5	20.5	11 7	5 7.39	+ 2 58.4	1.846	2.707	12.6	19.1
11 17	5 3.31	+28 11.6	1.930	2.865	7.8	20.3	11 17	5 0.41	+ 2 21.0	1.786	2.701	9.8	19.0
11 27	4 52.85	+27 41.7	1.905	2.879	3.9	20.1	11 27	4 51.69	+ 1 57.8	1.752	2.695	7.7	18.8
12 7	4 41.76	+27 2.7	1.911	2.893	1.8	19.9	12 7	4 42.16	+ 1 52.5	1.745	2.688	7.5	18.8
12 17	4 31.24	+26 17.5	1.947	2.907	5.2	20.2	12 17	4 32.89	+ 2 7.0	1.765	2.681	9.5	18.9
12 27	4 22.37	+25 30.6	2.012	2.919	9.0	20.4	12 27	4 24.92	+ 2 40.8	1.811	2.674	12.3	19.1
1 6	4 15.90	+24 46.4	2.103	2.931	12.3	20.7	1 6	4 19.04	+ 3 31.3	1.880	2.667	15.1	19.2
415364	2013 KM ₉	12 4.6	95°31	6°1/ 1.7	14 18		280156	2002 PL ₁₇₀	12 4.6	48°56	5°2/ 3.2	18	
10 28	5 10.50	+ 2 34.7	2.783	3.547	11.6	22.7	10 28	5 12.62	+12 49.0	1.466	2.284	17.7	20.7
11 7	5 5.17	+ 1 20.1	2.732	3.576	9.5	22.6	11 7	5 8.15	+11 47.0	1.417	2.307	13.9	20.5
11 17	4 58.35	+ 0 13.0	2.706	3.605	7.6	22.5	11 17	5 0.91	+10 48.7	1.389	2.330	9.7	20.3
11 27	4 50.57	- 0 42.6	2.708	3.633	6.3	22.4	11 27	4 51.84	+ 9 59.2	1.386	2.353	6.1	20.1
12 7	4 42.51	- 0 12.6	2.739	3.660	6.3	22.5	12 7	4 42.19	+ 9 22.7	1.408	2.377	5.6	20.2
12 17	4 34.82	- 1 48.3	2.800	3.687	7.6	22.6	12 17	4 33.26	+ 9 2.4	1.458	2.402	8.6	20.4
12 27	4 28.14	- 1 56.5	2.887	3.714	9.3	22.8	12 27	4 26.20	+ 8 59.2	1.533	2.426	12.2	20.7
1 6	4 22.91	- 1 49.5	2.999	3.739	11.1	22.9	1 6	4 21.71	+ 9 12.0	1.629	2.451	15.5	21.0
393246	2013 RB	12 4.6	162°67	7°6/ 30.4	18		144509	2004 ER ₇₃	12 4.6	58°33	1°3/ 4.8	18	
10 28	5 7.88	- 6 28.6	3.164	3.896	11.0	22.0	10 28	5 14.93	+24 14.9	1.785	2.584	15.8	19.6
11 7	5 3.18	- 7 41.9	3.098	3.901	9.6	21.9	11 7	5 10.04	+24 45.6	1.712	2.594	12.3	19.4
11 17	4 57.10	- 8 44.8	3.056	3.907	8.4	21.9	11 17	5 2.34	+25 13.2	1.661	2.603	8.3	19.2
11 27	4 50.07	- 9 33.2	3.040	3.912	7.7	21.8	11 27	4 52.58	+25 35.5	1.636	2.613	3.9	18.9
12 7	4 42.66	-10 4.0	3.051	3.916	7.8	21.8	12 7	4 41.92	+25 51.1	1.639	2.622	1.7	18.8
12 17	4 35.45	-10 15.8	3.089	3.920	8.7	21.9	12 17	4 31.65	+26 0.2	1.671	2.632	5.8	19.1
12 27	4 29.04	-10 8.7	3.152	3.923	10.0	22.0	12 27	4 23.06	+26 5.0	1.730	2.642	9.9	19.3
1 6	4 23.88	- 9 44.7	3.238	3.926	11.3	22.1	1 6	4 17.01	+26 8.4	1.814	2.652	13.5	19.6
58093	1934 JP	12 4.6	300°63	1°3/ 4.3	18		223956	2004 XC ₇₄	12 4.6	32°49	1°3/ 5.2	18	
10 28	5 12.80	+20 31.8	1.397	2.220	18.2	19.3	10 28	5 11.95	+28 56.3	2.145	2.933	13.9	19.8
11 7	5 9.52	+20 20.4	1.297	2.193	14.4	19.0	11 7	5 7.25	+28 26.0	2.061	2.935	10.9	19.6
11 17	5 2.72	+20 5.9	1.217	2.166	9.8	18.6	11 17	5 0.22	+27 45.9	1.999	2.937	7.4	19.4
11 27	4 53.01	+19 48.7	1.160	2.140	4.5	18.3	11 27	4 51.56	+26 56.2	1.965	2.940	3.6	19.2
12 7	4 41.62	+19 30.1	1.129	2.113	2.1	18.0	12 7	4 42.26	+25 58.4	1.960	2.943	1.5	19.0
12 17	4 30.20	+19 12.6	1.124	2.086	7.7	18.3	12 17	4 33.40	+24 56.1	1.984	2.946	5.0	19.3
12 27	4 20.55	+19 0.2	1.144	2.060	13.4	18.5	12 27	4 25.96	+23 54.0	2.038	2.949	8.7	19.5
1 6	4 14.02	+18 56.4	1.185	2.035	18.3	18.8	1 6	4 20.65	+22 56.6	2.117	2.952	11.9	19.7
368154	1997 WS ₁₀	12 4.6	21°52	2°5/ 4.9	18		381036	2006 VD ₆₃	12 4.6	330°78	4°0/ 2.5	18	
10 28	5 11.40	+24 5											

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
404392 2013 <i>GR</i> ₄₇		12 4.6 157°08	0°3/ 4.5 18				33380 1999 <i>CC</i> ₃₃		12 4.6 156°13	2°4/ 5.2 18			
10 28	5 13.02	+21 25.4	2.181	2.973	13.5	21.6	10 28	5 20.25	+27 58.9	1.637	2.429	17.3	18.9
11 7	5 8.03	+21 29.6	2.097	2.976	10.5	21.4	11 7	5 14.55	+28 15.7	1.560	2.436	13.7	18.7
11 17	5 0.75	+21 31.9	2.037	2.979	7.0	21.2	11 17	5 5.55	+28 24.8	1.504	2.441	9.4	18.4
11 27	4 51.83	+21 31.9	2.004	2.982	3.1	21.0	11 27	4 54.08	+28 23.2	1.473	2.447	4.8	18.2
12 7	4 42.17	+21 29.8	2.000	2.984	1.1	20.8	12 7	4 41.53	+28 9.7	1.470	2.451	2.5	18.1
12 17	4 32.79	+21 26.7	2.026	2.986	5.0	21.1	12 17	4 29.49	+27 45.9	1.495	2.455	6.5	18.3
12 27	4 24.70	+21 24.4	2.081	2.988	8.7	21.4	12 27	4 19.47	+27 16.6	1.548	2.458	10.9	18.6
1 6	4 18.65	+21 24.8	2.161	2.989	12.0	21.6	1 6	4 12.47	+26 47.2	1.624	2.461	14.8	18.8
510251 2011 <i>GN</i> ₇₈		12 4.6 230°48	9°7/ 2.0 18				455461 2003 <i>SB</i> ₄₂₉		12 4.6 21°07	3°1/ 3.7 18			
10 28	5 15.34	- 4 57.0	2.147	2.893	15.1	22.4	10 28	5 8.66	+15 48.4	1.679	2.497	15.8	20.7
11 7	5 9.81	- 5 50.4	2.059	2.879	13.1	22.2	11 7	5 5.08	+15 17.7	1.614	2.506	12.3	20.5
11 17	5 1.97	- 6 29.9	1.991	2.864	11.2	22.1	11 17	4 58.97	+14 48.2	1.571	2.516	8.4	20.3
11 27	4 52.40	- 6 49.5	1.948	2.848	9.9	22.0	11 27	4 51.09	+14 22.4	1.553	2.527	4.5	20.1
12 7	4 41.97	- 6 44.8	1.932	2.831	9.9	21.9	12 7	4 42.52	+14 3.0	1.561	2.539	3.5	20.0
12 17	4 31.70	- 6 14.0	1.942	2.813	11.2	22.0	12 17	4 34.41	+13 52.1	1.598	2.552	6.8	20.3
12 27	4 22.60	- 5 18.4	1.978	2.795	13.4	22.1	12 27	4 27.85	+13 51.5	1.660	2.565	10.7	20.5
1 6	4 15.47	- 4 2.0	2.036	2.775	15.7	22.2	1 6	4 23.56	+14 1.4	1.745	2.579	14.1	20.8
146737 2001 <i>XK</i> ₇₃		12 4.6 346°23	1°5/ 4.2 18				252125 2000 <i>WK</i> ₁₄₇		12 4.6 98°74	1°4/ 4.9 18 R			
10 28	5 11.12	+18 58.7	1.857	2.664	15.0	19.9	10 28	5 21.72	+24 53.6	1.512	2.310	18.2	20.6
11 7	5 6.94	+18 47.5	1.774	2.661	11.7	19.7	11 7	5 15.57	+25 14.7	1.452	2.332	14.2	20.4
11 17	5 0.22	+18 35.2	1.714	2.660	7.8	19.4	11 17	5 6.09	+25 30.4	1.413	2.354	9.5	20.1
11 27	4 51.65	+18 22.8	1.680	2.658	3.6	19.2	11 27	4 54.25	+25 38.4	1.399	2.375	4.4	19.9
12 7	4 42.23	+18 11.6	1.674	2.656	2.0	19.1	12 7	4 41.55	+25 37.6	1.413	2.396	1.8	19.8
12 17	4 33.12	+18 3.3	1.696	2.655	6.0	19.3	12 17	4 29.60	+25 29.5	1.455	2.416	6.4	20.1
12 27	4 25.44	+18 0.0	1.746	2.654	10.0	19.6	12 27	4 19.86	+25 17.9	1.524	2.436	11.0	20.4
1 6	4 20.02	+18 3.2	1.819	2.653	13.6	19.8	1 6	4 13.24	+25 7.2	1.617	2.455	14.9	20.7
69745 1998 <i>KR</i> ₅₇		12 4.6 165°21	2°2/ 4.0 18				477544 2010 <i>FX</i> ₂₂		12 4.6 48°55	10°1/ 2.0 18			
10 28	5 14.43	+16 13.4	2.088	2.881	14.0	20.3	10 28	5 11.26	+ 1 11.1	1.513	2.312	18.1	20.4
11 7	5 9.11	+16 3.3	2.007	2.885	10.9	20.1	11 7	5 7.15	- 0 16.6	1.460	2.323	15.2	20.2
11 17	5 1.46	+15 54.4	1.948	2.889	7.4	19.9	11 17	5 0.36	- 1 30.7	1.426	2.334	12.3	20.0
11 27	4 52.14	+15 47.6	1.917	2.892	3.7	19.7	11 27	4 51.70	- 2 23.4	1.416	2.346	10.4	20.0
12 7	4 42.08	+15 44.2	1.915	2.894	2.6	19.6	12 7	4 42.36	- 2 48.8	1.431	2.358	10.4	20.0
12 17	4 32.34	+15 45.2	1.943	2.897	5.8	19.8	12 17	4 33.55	- 2 44.8	1.469	2.370	12.2	20.1
12 27	4 23.93	+15 52.1	1.999	2.898	9.5	20.0	12 27	4 26.44	- 2 13.0	1.531	2.382	14.8	20.3
1 6	4 17.60	+16 5.5	2.081	2.900	12.7	20.3	1 6	4 21.78	- 1 18.2	1.613	2.395	17.4	20.6
73270 2002 <i>JY</i> ₅₀		12 4.6 181°88	1°5/ 5.0 18				178231 2006 <i>WT</i> ₄₃		12 4.6 73°47	2°6/ 3.8 18			
10 28	5 16.15	+26 54.9	2.314	3.092	13.3	21.2	10 28	5 11.39	+17 5.7	1.939	2.742	14.5	20.9
11 7	5 10.43	+27 5.0	2.224	3.093	10.4	21.1	11 7	5 6.93	+16 31.0	1.861	2.746	11.3	20.7
11 17	5 2.35	+27 9.6	2.158	3.093	7.1	20.8	11 17	5 0.10	+15 55.6	1.806	2.749	7.7	20.5
11 27	4 52.55	+27 7.1	2.119	3.093	3.5	20.6	11 27	4 51.59	+15 21.4	1.777	2.752	3.9	20.3
12 7	4 41.97	+26 57.2	2.110	3.092	1.7	20.5	12 7	4 42.38	+14 51.2	1.777	2.755	3.0	20.3
12 17	4 31.66	+26 40.8	2.132	3.091	4.9	20.7	12 17	4 33.54	+14 27.6	1.805	2.758	6.3	20.5
12 27	4 22.69	+26 20.6	2.183	3.089	8.5	20.9	12 27	4 26.08	+14 12.9	1.861	2.762	10.0	20.7
1 6	4 15.81	+26 0.2	2.260	3.086	11.6	21.1	1 6	4 20.76	+14 8.3	1.941	2.765	13.3	20.9
112312 2002 <i>LW</i> ₅₄		12 4.6 83°12	0°4/ 4.7 18				399175 2014 <i>FX</i> ₄₇		12 4.6 274°35	0°4/ 4.5 18			
10 28	5 20.88	+23 45.0	1.487	2.289	18.3	20.0	10 28	5 13.88	+23 56.7	1.718	2.522	16.1	21.3
11 7	5 14.72	+23 47.2	1.434	2.317	14.2	19.8	11 7	5 9.53	+23 24.5	1.622	2.507	12.7	21.0
11 17	5 5.36	+23 44.1	1.402	2.345	9.4	19.6	11 17	5 2.23	+22 44.3	1.547	2.492	8.5	20.7
11 27	4 53.83	+23 34.9	1.395	2.373	4.1	19.4	11 27	4 52.68	+21 56.8	1.497	2.476	3.8	20.4
12 7	4 41.62	+23 19.8	1.416	2.400	1.3	19.2	12 7	4 42.01	+21 4.0	1.476	2.460	1.4	20.2
12 17	4 30.29	+23 1.4	1.465	2.426	6.3	19.6	12 17	4 31.60	+20 10.0	1.483	2.444	6.4	20.5
12 27	4 21.18	+22 43.6	1.541	2.452	10.9	20.0	12 27	4 22.81	+19 20.1	1.517	2.428	11.1	20.7
1 6	4 15.10	+22 30.0	1.640	2.478	14.7	20.3	1 6	4 16.64	+18 38.8	1.575	2.412	15.2	20.9
453768 2011 <i>FT</i> ₄₂		12 4.6 284°09	4°6/ 2.8 18				48099 2001 <i>FT</i> ₅₇		12 4.6 211°76	3°6/ 3.0 18			
10 28	5 8.34	+ 9 55.6	2.365	3.158	12.6	21.4	10 28	5 8.80	+11 53.1	2.697	3.484	11.3	19.2
11 7	5 4.25	+ 9 9.3	2.268	3.141	10.1	21.2	11 7	5 4.28	+11 9.6	2.608	3.480	9.0	19.0
11 17	4 58.21	+ 8 25.9	2.195	3.124	7.4	21.0	11 17	4 58.05	+10 27.8	2.543	3.475	6.4	18.8
11 27	4 50.74	+ 7 48.7	2.148	3.108	5.1	20.8	11 27	4 50.64	+ 9 50.3	2.506	3.470	4.1	18.7
12 7	4 42.57	+ 7 20.9	2.130	3.091	4.9	20.8	12 7	4 42.69	+ 9 19.5	2.499	3.465	3.8	18.6
12 17	4 34.53	+ 7 4.7	2.142	3.074	7.0	20.9	12 17	4 34.94	+ 8 57.5	2.523	3.459	5.9	18.8
12 27	4 27.50	+ 7 1.8	2.180	3.057	9.9	21.1	12 27	4 28.11	+ 8 45.8	2.574	3.453	8.5	18.9
1 6	4 22.13	+ 7 12.0	2.243	3.040	12.7	21.2	1 6	4 22.78	+ 8 44.7	2.651	3.447	11.0	19.1
306220 2011 <i>QS</i> ₄₀		12 4.6 120°68	6°5/ 6.8 18				92382 2000 <i>HT</i> ₇₂		12 4.6 62°62	0°1/ 4.6 18			
10 28	5 21.48	+40 35.9	2.107	2.850	15.5	20.6	10 28	5 19.06	+22 45.3	1.143	1.969	21.2	20.1
11 7	5 15.17	+41 22.9	2.035	2.865	12.9	20.5	11 7	5 14.18	+22 40.2	1.094	1.990	16.5	19.9
11 17	5 5.76	+41 55.6	1.984	2.879	10.1	20.3	11 17	5 5.44	+22 30.2	1.063	2.012	10.9	19.6
11 27	4 54.10	+42 8.9	1.958	2.892	7.6	20.2	11 27	4 54.01	+22 14.7	1.054	2.034	4.8	19.4
12 7	4 41.51	+41 59.7	1.959	2.906	6.5	20.2	12 7	4 41.67	+21 55.0	1.071	2.056	1.5	19.2
12 17	4 29.48	+41 29.1	1.988	2.918	7.6	20.3	12 17	4 30.35	+21 34.1	1.114	2.078	7.5	19.7
12 27	4 19.38	+40 41.8	2.045	2.931	10.0	20.4	12 27	4 21.68	+21 16.8	1.181	2.100	12.8	20.0
1 6	4 12.13	+39 45.2	2.127	2.942	12.6	20.6	1 6	4 16.56	+21 6.7	1.269	2.121	17.2	20.4
482275 2011 <i>SU</i> ₁₀₃		12 4.6 341°47	6°4/ 2.0 18				40012 1998 <i>HP</i> ₁₂₃		12 4.6				

EPHEMERIDES

12 4.6

12 4.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
32910	1994 <i>TE</i> ₁₅		12 4.6 50°31'	2.5/	3.9	18	394987	2009 <i>BH</i> ₂₆		12 4.6 194°76'	0.4/	4.7	18
10 28	5 18.23	+20 30.7	1.009	1.846	22.6	17.4	10 28	5 14.89	+23 45.6	2.457	3.238	12.5	22.5
11 7	5 13.52	+19 39.9	0.971	1.874	17.4	17.2	11 7	5 9.33	+23 47.9	2.363	3.235	9.8	22.4
11 17	5 4.87	+18 45.2	0.952	1.904	11.5	17.0	11 17	5 1.60	+23 46.5	2.293	3.232	6.5	22.1
11 27	4 53.67	+17 50.3	0.954	1.933	5.3	16.8	11 27	4 52.29	+23 40.9	2.251	3.228	2.9	21.9
12 7	4 41.85	+17 0.3	0.981	1.963	3.2	16.7	12 7	4 42.24	+23 31.1	2.239	3.223	0.9	21.7
12 17	4 31.31	+16 20.4	1.033	1.994	8.5	17.2	12 17	4 32.41	+23 18.3	2.258	3.218	4.6	22.0
12 27	4 23.60	+15 54.9	1.108	2.024	13.7	17.5	12 27	4 23.76	+23 4.5	2.307	3.212	8.1	22.2
1 6	4 19.45	+15 45.0	1.203	2.055	18.0	17.9	1 6	4 17.00	+22 52.4	2.383	3.205	11.2	22.4
294041	2007 <i>TN</i> ₁₃₃		12 4.6 168°96'	3.4/	5.3	18	171844	2001 <i>KM</i> ₂₉		12 4.6 207°40'	2.0/	3.7	18
10 28	5 18.58	+30 34.8	2.199	2.970	14.1	21.1	10 28	5 13.69	+20 5.2	2.179	2.971	13.5	20.5
11 7	5 12.67	+31 22.1	2.113	2.973	11.3	20.9	11 7	5 8.50	+19 7.3	2.088	2.967	10.6	20.3
11 17	5 4.07	+32 3.2	2.050	2.976	8.0	20.7	11 17	5 1.07	+18 4.3	2.020	2.962	7.1	20.1
11 27	4 53.44	+32 34.4	2.014	2.979	4.8	20.5	11 27	4 52.04	+16 58.5	1.981	2.957	3.4	19.9
12 7	4 41.82	+32 53.0	2.007	2.981	3.5	20.4	12 7	4 42.34	+15 53.3	1.972	2.951	2.4	19.8
12 17	4 30.44	+32 58.6	2.030	2.982	5.8	20.6	12 17	4 32.95	+14 52.9	1.993	2.946	5.8	20.0
12 27	4 20.53	+32 53.7	2.083	2.983	9.1	20.8	12 27	4 24.87	+14 1.1	2.043	2.939	9.5	20.2
1 6	4 12.99	+32 42.4	2.160	2.984	12.2	21.0	1 6	4 18.81	+13 20.7	2.119	2.932	12.7	20.4
451107	2009 <i>EW</i> ₂₂		12 4.6 117°78'	8.5/	1.2	18	447474	2006 <i>QB</i> ₁₁₄		12 4.6 124°81'	4.7/	6.6	18
10 28	5 11.81	- 3 33.7	2.477	3.226	13.3	21.6	10 28	5 20.14	+38 20.3	2.490	3.230	13.4	22.1
11 7	5 6.47	- 4 56.0	2.424	3.247	11.3	21.5	11 7	5 13.44	+38 41.7	2.416	3.250	11.0	22.0
11 17	4 59.40	- 6 6.3	2.395	3.266	9.6	21.4	11 17	5 4.27	+38 50.8	2.366	3.269	8.3	21.8
11 27	4 51.19	- 6 59.5	2.392	3.285	8.6	21.4	11 27	4 53.41	+38 44.4	2.342	3.287	5.8	21.7
12 7	4 42.59	- 7 32.1	2.416	3.304	8.6	21.4	12 7	4 41.93	+38 21.3	2.347	3.305	4.7	21.7
12 17	4 34.36	- 7 42.4	2.467	3.322	9.7	21.5	12 17	4 30.98	+37 43.0	2.382	3.322	5.9	21.8
12 27	4 27.23	- 7 31.1	2.543	3.339	11.4	21.6	12 27	4 21.63	+36 53.7	2.447	3.338	8.3	21.9
1 6	4 21.75	- 7 1.0	2.641	3.356	13.0	21.8	1 6	4 14.60	+35 59.1	2.538	3.354	10.8	22.1
176318	2001 <i>SB</i> ₂₀₁		12 4.6 318°30'	9.1/	6.6	17	348305	2005 <i>AV</i> ₂₈		12 4.6 282°32'	5.1/	4.4	18
10 28	5 18.03	+43 3.4	1.803	2.556	17.4	19.7	10 28	5 19.95	+ 6 13.9	1.933	2.707	15.6	20.4
11 7	5 13.70	+44 20.5	1.716	2.545	14.9	19.5	11 7	5 14.12	+ 6 36.9	1.816	2.677	12.8	20.2
11 17	5 5.58	+45 23.3	1.647	2.534	12.3	19.3	11 17	5 5.38	+ 7 13.1	1.722	2.647	9.4	19.9
11 27	4 54.37	+46 3.6	1.602	2.524	10.0	19.2	11 27	4 54.23	+ 8 4.7	1.655	2.616	6.2	19.7
12 7	4 41.50	+46 15.5	1.582	2.514	9.1	19.1	12 7	4 41.59	+ 9 12.2	1.617	2.585	5.2	19.5
12 17	4 28.83	+45 57.3	1.587	2.505	10.2	19.2	12 17	4 28.71	+10 34.0	1.610	2.553	8.0	19.6
12 27	4 18.27	+45 13.5	1.616	2.496	12.6	19.3	12 27	4 17.00	+12 7.3	1.632	2.521	11.9	19.8
1 6	4 11.16	+44 13.1	1.669	2.487	15.4	19.4	1 6	4 7.58	+13 48.2	1.681	2.488	15.8	20.0
8001	Ramsden		12 4.6 117°20'	0.2/	4.7	18	328864	2009 <i>WB</i> ₂₃₂		12 4.6 186°78'	0.2/	4.6	17
10 28	5 11.53	+23 43.7	2.612	3.396	11.8	18.7	10 28	5 11.99	+20 55.6	2.568	3.354	11.9	21.1
11 7	5 6.46	+23 39.9	2.535	3.409	9.1	18.5	11 7	5 6.97	+21 7.2	2.478	3.353	9.2	20.9
11 17	4 59.52	+23 32.4	2.481	3.421	6.0	18.3	11 17	4 59.99	+21 17.7	2.412	3.353	6.1	20.7
11 27	4 51.29	+23 21.2	2.456	3.433	2.7	18.1	11 27	4 51.57	+21 26.6	2.374	3.352	2.7	20.5
12 7	4 42.55	+23 6.7	2.461	3.445	0.8	18.0	12 7	4 42.50	+21 34.1	2.367	3.351	0.9	20.3
12 17	4 34.12	+22 50.5	2.496	3.457	4.2	18.3	12 17	4 33.61	+21 40.4	2.390	3.350	4.4	20.6
12 27	4 26.81	+22 34.3	2.562	3.468	7.4	18.5	12 27	4 25.77	+21 46.8	2.443	3.348	7.7	20.8
1 6	4 21.20	+22 20.5	2.654	3.479	10.1	18.7	1 6	4 19.65	+21 54.7	2.523	3.346	10.6	21.0
328979	2010 <i>VB</i> ₂₀₀		12 4.6 49°56'	5.1/	4.0	18	3435	Boury		12 4.6 323°90'	5.9/	3.1	18
10 28	5 17.84	+12 42.6	1.043	1.877	22.3	19.9	10 28	5 12.49	+11 31.4	1.431	2.249	18.1	16.7
11 7	5 13.07	+12 18.0	1.006	1.904	17.4	19.7	11 7	5 8.62	+10 36.4	1.356	2.245	14.4	16.4
11 17	5 4.56	+12 0.9	0.987	1.933	11.9	19.5	11 17	5 1.69	+ 9 44.9	1.302	2.242	10.4	16.2
11 27	4 53.57	+11 54.9	0.989	1.962	6.8	19.3	11 27	4 52.47	+ 9 2.2	1.272	2.238	6.8	16.0
12 7	4 41.88	+12 1.9	1.016	1.991	5.4	19.4	12 7	4 42.21	+ 8 33.3	1.267	2.235	6.3	15.9
12 17	4 31.32	+12 22.6	1.067	2.021	9.3	19.7	12 17	4 32.35	+ 8 21.7	1.289	2.232	9.5	16.1
12 27	4 23.39	+12 56.1	1.142	2.052	14.0	20.0	12 27	4 24.27	+ 8 29.0	1.335	2.229	13.6	16.4
1 6	4 18.90	+13 40.2	1.237	2.082	18.0	20.4	1 6	4 18.95	+ 8 54.1	1.402	2.227	17.4	16.6
354383	2003 <i>SE</i> ₁₄₉		12 4.6 7°10'	5.6/	3.3	17	509612	2008 <i>ED</i> ₁₅₂		12 4.6 192°35'	0.6/	4.4	18
10 28	5 4.53	+14 30.9	1.041	1.897	20.7	20.2	10 28	5 17.05	+21 51.2	1.878	2.672	15.3	22.4
11 7	5 3.23	+13 31.9	0.986	1.898	16.3	19.9	11 7	5 11.59	+21 37.0	1.791	2.670	12.0	22.2
11 17	4 58.41	+12 34.8	0.949	1.901	11.3	19.7	11 17	5 3.39	+21 18.8	1.726	2.668	8.0	22.0
11 27	4 51.04	+11 46.1	0.933	1.907	6.8	19.5	11 27	4 53.16	+20 56.9	1.688	2.666	3.6	21.7
12 7	4 42.62	+11 12.0	0.940	1.915	6.0	19.4	12 7	4 42.01	+20 32.3	1.679	2.662	1.4	21.5
12 17	4 34.84	+10 56.6	0.969	1.924	9.9	19.7	12 17	4 31.19	+20 7.4	1.699	2.658	5.9	21.8
12 27	4 29.23	+11 1.7	1.020	1.936	14.6	20.0	12 27	4 21.95	+19 45.4	1.748	2.654	10.2	22.1
1 6	4 26.73	+11 25.6	1.091	1.950	18.9	20.3	1 6	4 15.15	+19 29.3	1.821	2.649	13.9	22.3
412892	2014 <i>QP</i> ₅₂		12 4.6 69°77'	0.5/	4.4	17	381756	2009 <i>SO</i> ₁₅₀		12 4.6 155°39'	2.1/	3.9	18
10 28	5 11.98	+21 49.2	1.998	2.798	14.3	21.8	10 28	5 16.74	+18 45.2	1.810	2.608	15.7	21.4
11 7	5 7.39	+21 35.7	1.921	2.804	11.1	21.6	11 7	5 11.23	+18 13.4	1.733	2.615	12.2	21.2
11 17	5 0.41	+21 18.8	1.867	2.811	7.4	21.4	11 17	5 3.05	+17 39.3	1.679	2.621	8.2	21.0
11 27	4 51.76	+20 59.0	1.839	2.818	3.2	21.2	11 27	4 52.96	+17 4.7	1.651	2.627	3.9	20.7
12 7	4 42.40	+20 37.5	1.840	2.824	1.2	21.1	12 7	4 42.09	+16 32.0	1.652	2.632	2.5	20.7
12 17	4 33.43	+20 16.5	1.871	2.831	5.3	21.4	12 17	4 31.67	+16 4.1	1.682	2.637	6.4	20.9
12 27	4 25.87	+19 58.4	1.929	2.838	9.2	21.6	12 27	4 22.88	+15 43.9	1.740	2.641	10.5	21.2
1 6	4 20.47	+19 45.8	2.012	2.845	12.6	21.8	1 6	4 16.53	+15 33.4	1.822	2.644	14.1	21.4
447749	2007 <i>HU</i> ₃₇		12 4.6 345°30'	15.7/	30.8	15	355959	2008 <i>YO</i> ₁₅₂		12 4.6 346°73'	4.4/	5.8	16
10 28	5 16.81	+41 10.0	1.204	1.999	22.1	19.9	10 28	5 12.13	+32 8.9	1.392	2.204	18.8	21.2
11 7	5 15.57	+44 53.4	1.122	1.973	19.6	19.6	11 7	5 9.09	+32 30.9	1.313	2.196	15.2	20.9
11 17	5 9.03	+48 37.4	1.059	1.949	17.2	19.4	11 17	5 2.42	+32 40.6	1.253	2.190	10.9	20.7
11 27	4 56.94	+52 2.5	1.019	1.928	15.8	19.2	11 27	4 52.93	+32 33.8	1.215	2.184	6.6	20.4
12 7	4 40.40	+54 47.8	1.002	1.908	16.0	19.2	12 7	4 42.08	+32 8.6	1.203	2.180	4.5	20.3
12 17	4 22.24	+56 38.2	1.006	1.892	17.9	19.2	12 17	4 31.66	+31 27.2	1.215	2.176	7.6	20.5
12 27	4 6.58	+57 32.6	1.029	1.878	20.6	19.3	12 27	4 23.41	+30 35.8	1.253	2.173	12.1	20.7
1 6	3 56.82	+57 43.2	1.068	1.867	23.4	19.5	1 6	4 18.4					

EPHEMERIDES

12 4.6

12 4.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
330482	2007 <i>GX</i> ₂₀	12	4.6 195°26	2°9/ 5.3 17			58563	1997 <i>NE</i> ₅	12	4.6 155°89	1°9/ 5.2 18		
10 28	5 14.49	+29 44.9	2.376	3.151	13.0	21.2	10 28	5 20.77	+28 0.5	1.688	2.476	17.0	19.4
11 7	5 9.31	+30 24.3	2.286	3.150	10.4	21.0	11 7	5 14.83	+28 2.5	1.610	2.484	13.4	19.2
11 17	5 1.77	+30 58.2	2.220	3.149	7.3	20.9	11 17	5 5.70	+27 55.8	1.554	2.491	9.2	19.0
11 27	4 52.45	+31 23.7	2.181	3.148	4.3	20.7	11 27	4 54.23	+27 38.2	1.523	2.498	4.6	18.7
12 7	4 42.26	+31 39.1	2.171	3.147	3.0	20.6	12 7	4 41.78	+27 9.6	1.521	2.503	2.1	18.6
12 17	4 32.25	+31 44.2	2.192	3.146	5.2	20.7	12 17	4 29.88	+26 32.4	1.547	2.508	6.2	18.8
12 27	4 23.51	+31 40.9	2.241	3.145	8.4	20.9	12 27	4 19.97	+25 51.8	1.602	2.512	10.6	19.1
1 6	4 16.83	+31 32.6	2.316	3.143	11.3	21.1	1 6	4 12.99	+25 13.4	1.680	2.515	14.5	19.3
484208	2007 <i>BT</i> ₃₆	12	4.6 301°67	3°8/ 5.8 17			51751	2001 <i>KQ</i> ₆₆	12	4.6 199°21	3°5/ 6.4 18		
10 28	5 13.27	+32 51.1	1.912	2.697	15.4	21.6	10 28	5 13.71	+36 45.1	2.936	3.683	11.4	19.4
11 7	5 9.17	+33 5.5	1.809	2.677	12.5	21.4	11 7	5 8.25	+36 44.5	2.840	3.680	9.3	19.2
11 17	5 2.11	+33 9.3	1.727	2.657	9.1	21.1	11 17	5 0.80	+36 33.5	2.766	3.677	6.9	19.1
11 27	4 52.73	+32 59.3	1.671	2.636	5.5	20.9	11 27	4 51.94	+36 10.2	2.720	3.673	4.6	18.9
12 7	4 42.16	+32 33.9	1.641	2.616	3.9	20.7	12 7	4 42.50	+35 34.2	2.703	3.669	3.5	18.8
12 17	4 31.75	+31 54.2	1.640	2.597	6.4	20.8	12 17	4 33.36	+34 47.1	2.718	3.665	4.8	18.9
12 27	4 22.90	+31 4.9	1.666	2.577	10.3	21.0	12 27	4 25.37	+33 52.2	2.762	3.660	7.2	19.1
1 6	4 16.65	+30 12.0	1.717	2.558	13.9	21.2	1 6	4 19.19	+32 53.8	2.834	3.655	9.6	19.2
127865	2003 <i>FK</i> ₁₁₉	12	4.6 253°81	0°9/ 4.4 18			430577	2002 <i>QV</i> ₈₀	12	4.6 68°68	4°6/ 5.6 18		
10 28	5 14.82	+20 39.4	1.780	2.582	15.7	20.9	10 28	5 19.77	+31 19.3	1.389	2.190	19.4	21.1
11 7	5 10.17	+20 32.5	1.686	2.570	12.3	20.6	11 7	5 14.79	+32 2.7	1.327	2.204	15.5	20.9
11 17	5 2.66	+20 23.3	1.614	2.558	8.3	20.4	11 17	5 6.03	+32 35.5	1.284	2.218	11.1	20.7
11 27	4 52.94	+20 11.8	1.567	2.546	3.7	20.1	11 27	4 54.46	+32 52.3	1.265	2.232	6.6	20.5
12 7	4 42.11	+19 59.0	1.549	2.533	1.6	19.9	12 7	4 41.72	+32 50.4	1.271	2.246	4.7	20.4
12 17	4 31.47	+19 46.5	1.559	2.520	6.2	20.2	12 17	4 29.71	+32 30.9	1.304	2.261	7.7	20.6
12 27	4 22.35	+19 37.0	1.597	2.506	10.8	20.4	12 27	4 20.15	+31 59.8	1.362	2.275	11.9	20.9
1 6	4 15.73	+19 33.3	1.658	2.492	14.7	20.6	1 6	4 14.07	+31 24.5	1.443	2.290	15.8	21.2
258140	2001 <i>RY</i> ₁₁₁	12	4.6 65°57	0°4/ 4.5 17			344953	2004 <i>VQ</i> ₇₂	12	4.6 22°52	0°0/ 4.7 16		
10 28	5 13.06	+21 40.0	1.850	2.653	15.2	21.3	10 28	5 8.22	+22 28.3	2.161	2.964	13.3	20.1
11 7	5 8.43	+21 34.7	1.776	2.661	11.8	21.1	11 7	5 4.32	+22 33.3	2.094	2.978	10.3	19.9
11 17	5 1.23	+21 26.4	1.725	2.669	7.8	20.9	11 17	4 58.32	+22 35.6	2.049	2.993	6.8	19.7
11 27	4 52.19	+21 15.3	1.699	2.677	3.5	20.6	11 27	4 50.87	+22 35.2	2.031	3.009	3.0	19.5
12 7	4 42.39	+21 2.2	1.701	2.686	1.2	20.5	12 7	4 42.84	+22 32.4	2.042	3.026	0.9	19.4
12 17	4 33.00	+20 49.0	1.733	2.694	5.6	20.8	12 17	4 35.17	+22 28.3	2.081	3.043	4.7	19.7
12 27	4 25.16	+20 38.1	1.792	2.702	9.7	21.1	12 27	4 28.76	+22 24.6	2.149	3.061	8.2	20.0
1 6	4 19.64	+20 31.8	1.875	2.711	13.2	21.3	1 6	4 24.25	+22 23.2	2.242	3.080	11.2	20.2
220487	2004 <i>CT</i> ₇₇	12	4.6 357°73	1°9/ 5.0 18			76140	2000 <i>EG</i> ₁₃	12	4.6 264°96	7°4/ 3.2 18		
10 28	5 11.34	+26 41.4	1.127	1.963	20.8	20.3	10 28	5 10.62	- 1 57.4	2.411	3.170	13.3	18.8
11 7	5 8.90	+26 45.8	1.058	1.960	16.4	20.1	11 7	5 5.86	- 2 22.0	2.334	3.170	11.2	18.6
11 17	5 2.49	+26 40.8	1.007	1.957	11.2	19.8	11 17	4 59.22	- 2 34.2	2.279	3.169	9.2	18.5
11 27	4 53.01	+26 24.3	0.978	1.956	5.4	19.4	11 27	4 51.26	- 2 30.3	2.249	3.168	7.7	18.4
12 7	4 42.11	+25 56.5	0.972	1.955	2.2	19.2	12 7	4 42.72	- 2 8.2	2.247	3.168	7.5	18.4
12 17	4 31.77	+25 20.8	0.990	1.956	7.7	19.6	12 17	4 34.41	- 1 27.6	2.272	3.167	8.8	18.5
12 27	4 23.88	+24 43.6	1.032	1.958	13.3	19.9	12 27	4 27.14	- 0 29.8	2.325	3.166	10.8	18.6
1 6	4 19.61	+24 11.2	1.093	1.961	18.2	20.2	1 6	4 21.52	+ 0 41.9	2.401	3.165	12.9	18.8
223798	2004 <i>TK</i> ₂₇	12	4.6 36°50	4°4/ 3.1 18			96236	1993 <i>UL</i> ₇	12	4.6 9°60	4°9/ 3.0 17		
10 28	5 9.60	+12 9.4	2.001	2.804	14.2	20.3	10 28	5 9.09	+ 9 59.5	2.102	2.901	13.8	19.8
11 7	5 5.43	+11 18.8	1.928	2.808	11.2	20.1	11 7	5 4.98	+ 9 13.9	2.025	2.901	11.0	19.6
11 17	4 59.08	+10 30.6	1.876	2.813	7.9	19.9	11 17	4 58.78	+ 8 32.5	1.970	2.902	8.0	19.4
11 27	4 51.21	+ 9 48.4	1.852	2.817	5.1	19.7	11 27	4 51.10	+ 7 58.6	1.942	2.903	5.4	19.3
12 7	4 42.70	+ 9 15.6	1.855	2.822	4.7	19.7	12 7	4 42.78	+ 7 35.5	1.942	2.904	5.1	19.3
12 17	4 34.54	+ 8 55.0	1.886	2.827	7.2	19.9	12 17	4 34.75	+ 7 25.3	1.970	2.905	7.4	19.4
12 27	4 27.66	+ 8 47.9	1.945	2.832	10.4	20.1	12 27	4 27.90	+ 7 29.1	2.024	2.906	10.3	19.6
1 6	4 22.75	+ 8 54.3	2.027	2.837	13.4	20.3	1 6	4 22.93	+ 7 46.0	2.103	2.907	13.1	19.8
479747	2014 <i>EA</i> ₁₂	12	4.6 319°36	0°6/ 4.5 18			523332	2017 <i>BF</i> ₁₃₉	12	4.6 212°44	0°8/ 4.9 18		
10 28	5 12.28	+20 19.6	1.375	2.199	18.3	20.7	10 28	5 12.78	+24 48.5	2.084	2.878	14.0	22.0
11 7	5 9.09	+20 31.1	1.287	2.183	14.5	20.5	11 7	5 8.10	+24 51.8	1.999	2.877	11.0	21.8
11 17	5 2.45	+20 42.4	1.218	2.167	9.8	20.1	11 17	5 1.00	+24 50.4	1.936	2.877	7.4	21.6
11 27	4 53.02	+20 53.1	1.173	2.152	4.4	19.8	11 27	4 52.13	+24 43.6	1.899	2.876	3.4	21.3
12 7	4 42.08	+21 2.8	1.153	2.137	1.6	19.6	12 7	4 42.45	+24 31.5	1.891	2.875	1.2	21.1
12 17	4 31.28	+21 12.2	1.160	2.123	7.3	19.9	12 17	4 33.06	+24 15.5	1.913	2.875	5.1	21.4
12 27	4 22.32	+21 23.3	1.191	2.110	12.7	20.1	12 27	4 25.04	+23 58.2	1.963	2.874	9.0	21.7
1 6	4 16.47	+21 38.5	1.243	2.097	17.4	20.4	1 6	4 19.18	+23 42.7	2.039	2.873	12.3	21.9
307464	2002 <i>WL</i>	12	4.6 357°11	20°8/ 4.7 18			50370	2000 <i>CL</i> ₈₄	12	4.6 128°18	1°3/ 5.0 18		
10 28	5 2.01	-21 2.0	1.227	1.979	24.1	17.7	10 28	5 14.71	+26 24.9	1.977	2.769	14.8	19.0
11 7	5 0.95	-22 24.1	1.179	1.966	22.8	17.5	11 7	5 9.70	+26 30.1	1.897	2.774	11.6	18.8
11 17	4 56.80	-23 7.7	1.144	1.956	21.8	17.4	11 17	5 2.09	+26 29.3	1.840	2.779	7.8	18.6
11 27	4 50.38	-23 0.6	1.122	1.948	21.0	17.3	11 27	4 52.61	+26 21.0	1.808	2.784	3.8	18.4
12 7	4 42.96	-21 56.3	1.116	1.944	20.9	17.3	12 7	4 42.31	+26 5.5	1.805	2.788	1.6	18.2
12 17	4 35.98	-19 54.4	1.126	1.944	21.3	17.3	12 17	4 32.39	+25 44.1	1.832	2.793	5.4	18.5
12 27	4 30.82	-17 2.1	1.153	1.946	22.4	17.4	12 27	4 24.01	+25 20.3	1.886	2.797	9.3	18.7
1 6	4 28.39	-13 32.8	1.196	1.952	23.8	17.6	1 6	4 17.96	+24 57.7	1.966	2.801	12.7	19.0
120506	1993 <i>TO</i> ₁	12	4.6 31°42	13°9/ 4.7									

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
326267	1993 BG ₈		12 4.6 48°53	6°6/ 3.5 18			351102	2003 UW ₂₆₇		12 4.6 357°18	6°4/ 4.6 18		
10 28	5 10.51	+ 2 21.9	2.145	2.925	14.1	19.9	10 28	5 16.47	+29 18.2	1.300	2.114	19.8	19.8
11 7	5 5.91	+ 1 59.9	2.080	2.936	11.6	19.7	11 7	5 13.07	+31 15.4	1.226	2.110	16.0	19.5
11 17	4 59.30	+ 1 48.8	2.036	2.947	9.0	19.6	11 17	5 5.57	+33 11.6	1.171	2.106	11.7	19.3
11 27	4 51.30	+ 1 52.0	2.018	2.958	7.0	19.5	11 27	4 54.61	+34 57.3	1.140	2.104	7.8	19.1
12 7	4 42.75	+ 2 11.5	2.027	2.969	6.7	19.5	12 7	4 41.68	+36 23.2	1.134	2.103	6.5	19.0
12 17	4 34.53	+ 2 47.3	2.064	2.981	8.3	19.6	12 17	4 28.85	+37 23.6	1.153	2.103	9.5	19.2
12 27	4 27.51	+ 3 38.0	2.128	2.993	10.7	19.8	12 27	4 18.29	+37 59.4	1.197	2.105	13.7	19.4
1 6	4 22.33	+ 4 40.7	2.216	3.005	13.1	20.0	1 6	4 11.56	+38 17.2	1.262	2.108	17.7	19.6
270275	2001 UB ₂₁₁		12 4.6 83°72	1°6/ 5.0 18			256618	2007 VG ₁₅₆		12 4.6 46°20	2°8/ 5.2 18		
10 28	5 18.71	+26 21.5	1.582	2.381	17.5	20.8	10 28	5 17.64	+28 0.9	1.298	2.112	19.8	21.0
11 7	5 13.20	+26 32.6	1.520	2.401	13.7	20.6	11 7	5 13.40	+28 22.4	1.227	2.115	15.7	20.7
11 17	5 4.54	+26 36.7	1.480	2.421	9.2	20.4	11 17	5 5.30	+28 35.3	1.176	2.118	10.9	20.5
11 27	4 53.69	+26 32.0	1.464	2.440	4.4	20.2	11 27	4 54.25	+28 35.9	1.147	2.122	5.6	20.2
12 7	4 42.02	+26 18.2	1.477	2.460	1.9	20.0	12 7	4 41.87	+28 22.8	1.144	2.126	3.0	20.0
12 17	4 31.05	+25 57.5	1.517	2.479	6.2	20.4	12 17	4 30.08	+27 57.8	1.167	2.130	7.4	20.3
12 27	4 22.14	+25 34.0	1.585	2.498	10.5	20.7	12 27	4 20.67	+27 26.6	1.215	2.134	12.5	20.6
1 6	4 16.13	+25 12.3	1.676	2.516	14.3	20.9	1 6	4 14.79	+26 55.8	1.284	2.138	16.9	20.9
101264	1998 SW ₁₀₅		12 4.6 22°68	6°2/ 2.7 18			224881	2007 BR ₇₁		12 4.6 319°32	3°8/ 5.3 18		
10 28	5 8.48	+ 8 9.0	1.839	2.644	15.2	19.3	10 28	5 15.55	+29 1.4	1.402	2.213	18.8	20.2
11 7	5 4.72	+ 7 9.1	1.773	2.650	12.2	19.1	11 7	5 11.84	+29 43.4	1.319	2.203	15.1	20.0
11 17	4 58.69	+ 6 15.2	1.728	2.657	9.1	18.9	11 17	5 4.40	+30 18.6	1.255	2.195	10.7	19.7
11 27	4 51.07	+ 5 32.1	1.709	2.664	6.7	18.8	11 27	4 53.95	+30 42.2	1.215	2.186	6.0	19.4
12 7	4 42.82	+ 5 3.8	1.717	2.672	6.5	18.8	12 7	4 41.93	+30 50.8	1.199	2.178	3.9	19.2
12 17	4 34.95	+ 4 53.0	1.751	2.680	8.6	18.9	12 17	4 30.16	+30 44.1	1.210	2.171	7.6	19.4
12 27	4 28.44	+ 5 0.0	1.811	2.689	11.6	19.1	12 27	4 20.51	+30 26.1	1.247	2.163	12.4	19.7
1 6	4 23.97	+ 5 23.4	1.894	2.698	14.4	19.4	1 6	4 14.25	+30 3.5	1.304	2.157	16.8	19.9
318290	2004 TW ₄₅		12 4.6 170°40	1°3/ 4.2 18			480831	1999 TC ₃₂₈		12 4.6 30°87	1°2/ 4.8 17		
10 28	5 14.39	+20 47.0	1.798	2.600	15.6	20.5	10 28	5 16.35	+22 24.1	1.028	1.867	22.2	19.6
11 7	5 9.58	+20 21.7	1.717	2.602	12.1	20.3	11 7	5 12.34	+23 9.0	0.994	1.897	17.1	19.4
11 17	5 2.08	+19 52.7	1.659	2.603	8.1	20.0	11 17	5 4.36	+23 50.9	0.977	1.928	11.3	19.2
11 27	4 52.63	+19 21.1	1.626	2.604	3.7	19.8	11 27	4 53.66	+24 26.3	0.982	1.961	5.1	19.0
12 7	4 42.33	+18 48.9	1.622	2.605	1.8	19.7	12 7	4 42.13	+24 52.9	1.011	1.996	1.8	18.9
12 17	4 32.42	+18 19.1	1.646	2.605	6.1	19.9	12 17	4 31.76	+25 11.1	1.065	2.031	7.4	19.3
12 27	4 24.09	+17 54.9	1.698	2.605	10.3	20.2	12 27	4 24.15	+25 24.1	1.143	2.067	12.6	19.7
1 6	4 18.19	+17 38.8	1.774	2.605	14.0	20.4	1 6	4 20.15	+25 35.6	1.242	2.104	16.8	20.1
22874	Haydeephelms		12 4.6 345°50	3°6/ 5.6 18			298514	2003 WX ₁₉		12 4.6 359°92	2°2/ 5.5 18		
10 28	5 14.91	+31 7.0	1.295	2.110	19.8	17.6	10 28	5 14.31	+31 8.9	1.629	2.428	17.1	19.5
11 7	5 11.42	+31 11.2	1.219	2.106	15.9	17.3	11 7	5 9.99	+30 36.3	1.548	2.427	13.6	19.3
11 17	5 4.04	+31 1.7	1.162	2.102	11.2	17.0	11 17	5 2.56	+29 49.4	1.488	2.426	9.4	19.0
11 27	4 53.70	+30 35.1	1.127	2.099	6.2	16.8	11 27	4 52.89	+28 47.0	1.452	2.426	4.9	18.7
12 7	4 41.99	+29 50.8	1.117	2.097	3.7	16.6	12 7	4 42.32	+27 31.5	1.444	2.426	2.3	18.6
12 17	4 30.85	+28 52.7	1.132	2.095	7.6	16.8	12 17	4 32.31	+26 8.0	1.464	2.427	6.2	18.8
12 27	4 22.08	+27 48.4	1.172	2.094	12.6	17.1	12 27	4 24.25	+24 44.2	1.511	2.427	10.7	19.1
1 6	4 16.84	+26 46.8	1.234	2.093	17.1	17.4	1 6	4 19.00	+23 27.1	1.582	2.429	14.7	19.3
460845	2014 WV ₉₁		12 4.6 293°12	3°6/ 2.8 17			409824	2006 KK ₅₃		12 4.6 316°48	3°1/ 3.4 17		
10 28	5 8.77	+14 26.2	2.372	3.169	12.4	21.8	10 28	5 8.71	+15 31.7	2.217	3.018	13.1	21.0
11 7	5 4.56	+13 21.3	2.282	3.161	9.8	21.6	11 7	5 4.69	+14 44.0	2.129	3.011	10.2	20.8
11 17	4 58.43	+12 15.3	2.216	3.153	6.8	21.4	11 17	4 58.61	+13 55.7	2.065	3.005	7.0	20.6
11 27	4 50.95	+11 11.7	2.178	3.145	4.2	21.3	11 27	4 51.07	+13 9.4	2.027	2.999	4.0	20.4
12 7	4 42.86	+10 14.1	2.169	3.137	4.0	21.2	12 7	4 42.87	+12 28.2	2.019	2.993	3.5	20.3
12 17	4 35.01	+ 9 25.9	2.190	3.130	6.4	21.4	12 17	4 34.92	+11 55.0	2.040	2.987	6.2	20.5
12 27	4 28.22	+ 8 49.9	2.239	3.122	9.4	21.5	12 27	4 28.09	+11 32.2	2.088	2.981	9.5	20.7
1 6	4 23.12	+ 8 27.2	2.313	3.115	12.2	21.7	1 6	4 23.08	+11 20.8	2.161	2.976	12.5	20.9
329549	2002 TG ₃₂₆		12 4.6 115°47	3°2/ 3.8 18			44827	1999 TN ₂₄₇		12 4.6 280°28	3°4/ 3.7 18 R		
10 28	5 17.12	+16 9.7	1.674	2.476	16.6	21.5	10 28	5 12.10	+15 14.2	1.783	2.590	15.5	18.2
11 7	5 11.59	+15 34.1	1.609	2.491	12.9	21.3	11 7	5 7.89	+14 41.8	1.695	2.581	12.2	17.9
11 17	5 3.31	+14 58.8	1.565	2.507	8.8	21.1	11 17	5 1.06	+14 10.1	1.630	2.572	8.4	17.7
11 27	4 53.12	+14 26.4	1.548	2.521	4.6	20.9	11 27	4 52.25	+13 41.5	1.590	2.563	4.6	17.5
12 7	4 42.22	+13 59.6	1.558	2.536	3.5	20.8	12 7	4 42.50	+13 18.9	1.577	2.554	3.7	17.4
12 17	4 31.90	+13 41.1	1.597	2.549	7.1	21.1	12 17	4 32.99	+13 5.0	1.593	2.545	7.1	17.6
12 27	4 23.35	+13 33.1	1.664	2.563	11.1	21.3	12 27	4 24.92	+13 1.8	1.636	2.536	11.2	17.8
1 6	4 17.34	+13 36.2	1.753	2.575	14.6	21.6	1 6	4 19.17	+13 10.0	1.702	2.527	14.8	18.0
180097	2003 EF ₅₃		12 4.6 176°93	0°8/ 4.4 18			128709	2004 RU ₁₀₅		12 4.6 297°37	0°2/ 4.7 17		
10 28	5 12.83	+19 14.5	2.820	3.600	11.1	21.2	10 28	5 11.27	+25 8.6	2.082	2.878	13.9	19.6
11 7	5 7.40	+19 16.5	2.730	3.602	8.6	21.1	11 7	5 6.98	+24 42.0	1.988	2.869	10.9	19.4
11 17	5 0.20	+19 17.9	2.665	3.604	5.7	20.9	11 17	5 0.30	+24 8.2	1.917	2.860	7.3	19.1
11 27	4 51.71	+19 18.8	2.628	3.605	2.6	20.7	11 27	4 51.86	+23 27.8	1.873	2.851	3.3	18.9
12 7	4 42.65	+19 19.5	2.622	3.605	1.2	20.6	12 7	4 42.64	+22 42.2	1.857	2.842	1.0	18.7
12 17	4 33.79	+19 20.8	2.648	3.605	4.2	20.8	12 17	4 33.68	+21 54.6	1.871	2.833	5.2	19.0
12 27	4 25.89	+19 23.7	2.705	3.605	7.3	21.0	12 27	4 26.07	+21 8.9	1.914	2.824	9.2	19.2
1 6	4 19.56	+19 29.5	2.788	3.604	9.9	21.2	1 6	4 20.57	+20 28.9	1.981	2.816	12.6	19.4
196168	2002 VV ₆₂		12 4.6 328°95	2°7/ 3.4 18			430552	2002 HU ₁₁		12 4.6 77°57	6°6/ 3.8 15		
10 28	5 8.80	+16 49.4	2.312	3.1									

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
247762	2003 <i>QF</i> ₁₅		12 4.7 86°09'	5°3'	6.9	17	434620	2005 <i>VD</i>		12 4.7 308°06'	1°4'	5.5	13 C
10 28	5 16.10	+39 28.8	2.291	3.040	14.2	20.3	10 28	5 29.25	+31 16.1	5.316	6.013	7.2	22.3
11 7	5 10.71	+39 46.8	2.214	3.051	11.7	20.2	11 7	5 19.07	+31 18.7	5.177	5.996	5.7	22.2
11 17	5 2.71	+39 51.1	2.158	3.061	9.0	20.0	11 17	5 7.46	+31 14.8	5.070	5.979	4.0	22.1
11 27	4 52.89	+39 38.5	2.128	3.071	6.5	19.9	11 27	4 54.85	+31 2.9	4.999	5.962	2.3	21.9
12 7	4 42.35	+39 7.8	2.125	3.081	5.3	19.8	12 7	4 41.78	+30 42.5	4.970	5.945	1.4	21.8
12 17	4 32.30	+38 20.6	2.151	3.092	6.5	19.9	12 17	4 28.85	+30 14.2	4.981	5.928	2.8	21.9
12 27	4 23.89	+37 21.7	2.206	3.102	8.9	20.1	12 27	4 16.66	+29 39.8	5.032	5.912	4.6	22.1
1 6	4 17.87	+36 17.3	2.286	3.112	11.5	20.3	1 6	4 5.70	+29 1.7	5.120	5.895	6.3	22.2
229791	2008 <i>RP</i> ₄₃		12 4.7 0°64'	0°5'	4.8	17	83194	2001 <i>QY</i> ₃₃₀		12 4.7 302°84'	4°6'	3.7	18
10 28	5 9.90	+23 49.3	1.901	2.707	14.7	20.1	10 28	5 11.51	+10 29.7	1.852	2.653	15.2	19.1
11 7	5 6.12	+23 53.9	1.820	2.705	11.5	19.9	11 7	5 7.31	+10 9.2	1.765	2.645	12.1	18.9
11 17	4 59.82	+23 54.5	1.760	2.705	7.7	19.6	11 17	5 0.62	+9 54.4	1.701	2.636	8.7	18.7
11 27	4 51.68	+23 50.6	1.727	2.705	3.5	19.4	11 27	4 52.06	+9 48.1	1.662	2.628	5.5	18.4
12 7	4 42.70	+23 42.4	1.721	2.705	1.1	19.2	12 7	4 42.59	+9 52.5	1.650	2.620	4.9	18.4
12 17	4 34.02	+23 31.3	1.744	2.706	5.4	19.5	12 17	4 33.33	+10 9.1	1.667	2.611	7.6	18.5
12 27	4 26.76	+23 19.8	1.794	2.708	9.4	19.8	12 27	4 25.41	+10 37.9	1.710	2.604	11.2	18.7
1 6	4 21.75	+23 10.7	1.868	2.710	12.9	20.0	1 6	4 19.66	+11 17.8	1.777	2.596	14.6	18.9
470188	2006 <i>VF</i> ₁₅		12 4.7 67°59'	2°0'	5.1	18	351395	2005 <i>EU</i> ₂₂₄		12 4.7 301°20'	4°6'	4.6	18
10 28	5 19.56	+26 45.5	1.329	2.139	19.6	21.6	10 28	5 17.03	+7 49.3	1.719	2.511	16.6	20.5
11 7	5 14.37	+26 59.7	1.274	2.160	15.4	21.3	11 7	5 11.96	+8 16.8	1.625	2.498	13.4	20.2
11 17	5 5.56	+27 5.9	1.239	2.182	10.4	21.1	11 17	5 3.96	+8 57.1	1.553	2.485	9.6	20.0
11 27	4 54.21	+27 1.5	1.227	2.203	5.0	20.9	11 27	4 53.65	+9 51.6	1.507	2.473	6.0	19.7
12 7	4 41.96	+26 46.2	1.242	2.225	2.3	20.8	12 7	4 42.08	+11 0.2	1.489	2.461	4.8	19.6
12 17	4 30.59	+26 22.5	1.284	2.247	6.9	21.1	12 17	4 30.58	+12 20.5	1.499	2.449	7.8	19.8
12 27	4 21.65	+25 55.8	1.351	2.268	11.6	21.4	12 27	4 20.52	+13 49.4	1.538	2.437	11.8	20.0
1 6	4 16.05	+25 31.3	1.441	2.289	15.7	21.8	1 6	4 12.96	+15 23.5	1.602	2.425	15.7	20.2
358253	2006 <i>TO</i> ₂₈		12 4.7 207°16'	3°1'	5.3	18	8075	Roero		12 4.7 38°08'	6°2'	3.1	18
10 28	5 16.71	+29 44.9	2.206	2.981	13.9	21.0	10 28	5 9.31	+6 22.0	1.901	2.700	15.0	17.4
11 7	5 11.31	+30 27.3	2.114	2.978	11.1	20.8	11 7	5 5.21	+5 37.4	1.843	2.715	12.1	17.2
11 17	5 3.28	+31 4.1	2.046	2.975	7.9	20.6	11 17	4 58.94	+5 1.1	1.807	2.732	9.1	17.1
11 27	4 53.24	+31 32.0	2.004	2.971	4.6	20.4	11 27	4 51.20	+4 37.3	1.797	2.748	6.7	17.0
12 7	4 42.20	+31 48.8	1.991	2.967	3.2	20.3	12 7	4 42.91	+4 28.7	1.813	2.765	6.4	17.0
12 17	4 31.33	+31 53.9	2.009	2.963	5.7	20.4	12 17	4 35.06	+4 36.9	1.856	2.783	8.4	17.1
12 27	4 21.84	+31 49.6	2.055	2.958	9.0	20.6	12 27	4 28.54	+5 1.2	1.925	2.800	11.1	17.3
1 6	4 14.63	+31 39.7	2.126	2.953	12.2	20.8	1 6	4 24.02	+5 39.4	2.018	2.819	13.7	17.6
343698	2011 <i>DP</i> ₂₃		12 4.7 116°22'	1°1'	4.4	18	4251	Kavasch		12 4.7 183°73'	1°2'	4.3	18 R
10 28	5 17.31	+20 17.4	1.810	2.606	15.7	22.0	10 28	5 16.23	+19 29.1	2.033	2.824	14.4	18.6
11 7	5 11.65	+20 6.2	1.741	2.622	12.2	21.8	11 7	5 10.75	+19 19.6	1.947	2.825	11.3	18.4
11 17	5 3.34	+19 52.8	1.695	2.637	8.1	21.6	11 17	5 2.78	+19 8.6	1.884	2.825	7.5	18.2
11 27	4 53.16	+19 37.6	1.675	2.653	3.6	21.4	11 27	4 52.98	+18 56.5	1.847	2.825	3.4	17.9
12 7	4 42.27	+19 21.9	1.684	2.667	1.6	21.3	12 7	4 42.35	+18 44.4	1.840	2.823	1.7	17.8
12 17	4 31.90	+19 7.5	1.722	2.681	5.9	21.6	12 17	4 32.01	+18 33.8	1.864	2.821	5.6	18.1
12 27	4 23.22	+18 57.1	1.788	2.695	10.0	21.9	12 27	4 23.08	+18 26.9	1.915	2.819	9.6	18.3
1 6	4 17.00	+18 52.6	1.879	2.708	13.5	22.1	1 6	4 16.37	+18 25.5	1.992	2.816	13.0	18.5
127408	2002 <i>LP</i> ₃₇		12 4.7 138°22'	7°0'	2.4	18	98964	2001 <i>CR</i> ₄₄		12 4.7 278°62'	4°5'	5.2	18
10 28	5 9.46	-0 44.7	2.603	3.364	12.4	19.9	10 28	5 18.05	+30 49.9	1.801	2.585	16.2	19.5
11 7	5 4.78	-1 30.7	2.534	3.371	10.4	19.7	11 7	5 13.18	+31 54.2	1.708	2.575	13.1	19.3
11 17	4 58.43	-2 6.6	2.487	3.378	8.5	19.6	11 17	5 5.03	+32 53.4	1.637	2.565	9.5	19.0
11 27	4 50.93	-2 28.6	2.467	3.385	7.2	19.5	11 27	4 54.21	+33 41.9	1.591	2.555	6.0	18.8
12 7	4 42.96	-2 34.3	2.474	3.391	7.1	19.5	12 7	4 41.92	+34 15.3	1.573	2.545	4.6	18.7
12 17	4 35.24	-2 22.4	2.509	3.397	8.3	19.6	12 17	4 29.70	+34 31.7	1.583	2.534	7.2	18.8
12 27	4 28.50	-1 53.5	2.571	3.402	10.2	19.8	12 27	4 19.16	+34 33.4	1.620	2.524	11.0	19.0
1 6	4 23.27	-1 9.9	2.656	3.408	12.1	19.9	1 6	4 11.50	+34 25.5	1.681	2.514	14.6	19.2
189160	2002 <i>LV</i> ₃₂		12 4.7 99°42'	6°8'	2.6	18	176223	2001 <i>QG</i> ₁₂₀		12 4.7 16°54'	6°4'	3.5	18
10 28	5 10.43	+0 11.2	2.556	3.319	12.6	20.6	10 28	5 10.05	+8 6.3	1.518	2.333	17.4	18.9
11 7	5 5.44	+0 37.5	2.499	3.339	10.4	20.5	11 7	5 6.47	+7 30.7	1.453	2.337	14.0	18.7
11 17	4 58.79	-1 16.3	2.466	3.360	8.4	20.4	11 17	5 0.14	+7 3.9	1.409	2.343	10.3	18.5
11 27	4 51.06	-1 41.4	2.459	3.380	7.0	20.3	11 27	4 51.85	+6 50.3	1.388	2.349	7.2	18.3
12 7	4 42.93	-1 50.4	2.479	3.400	6.9	20.3	12 7	4 42.72	+6 53.2	1.393	2.356	6.6	18.3
12 17	4 35.16	-1 42.4	2.528	3.419	8.1	20.5	12 17	4 34.03	+7 13.8	1.424	2.364	9.2	18.4
12 27	4 28.42	-1 18.0	2.604	3.438	10.0	20.6	12 27	4 26.98	+7 51.2	1.480	2.372	12.7	18.7
1 6	4 23.24	-0 39.4	2.703	3.457	11.9	20.8	1 6	4 22.40	+8 42.8	1.558	2.382	16.0	18.9
168751	2000 <i>QP</i> ₁₇₄		12 4.7 95°88'	3°5'	3.7	18	13917	Correggia		12 4.7 351°21'	8°7'	7.1	18
10 28	5 16.32	+17 4.0	1.377	2.194	18.7	20.2	10 28	5 14.19	+42 31.2	1.743	2.506	17.5	16.9
11 7	5 11.63	+16 17.7	1.311	2.203	14.6	19.9	11 7	5 10.64	+43 34.8	1.662	2.499	14.9	16.7
11 17	5 3.68	+15 30.3	1.266	2.212	9.9	19.7	11 17	5 3.50	+44 22.7	1.600	2.493	12.1	16.5
11 27	4 53.41	+14 45.1	1.245	2.220	5.2	19.4	11 27	4 53.54	+44 47.7	1.560	2.489	9.7	16.4
12 7	4 42.21	+14 6.2	1.251	2.229	4.0	19.4	12 7	4 42.16	+44 45.2	1.545	2.485	8.7	16.3
12 17	4 31.64	+13 37.6	1.283	2.237	8.1	19.7	12 17	4 31.15	+44 14.8	1.555	2.482	9.7	16.4
12 27	4 23.12	+13 22.4	1.340	2.246	12.7	19.9	12 27	4 22.23	+43 21.7	1.590	2.480	12.1	16.5
1 6	4 17.58	+13 21.5	1.420	2.254	16.7	20.2	1 6	4 16.58	+42 14.6	1.648	2.478	15.0	16.7
347573	2000 <i>YB</i> ₅₉		12 4.7 27°06'	3°6'	4.4	18	8959	Oenanthe		12 4.7 131°46'	0°3'	4.7	18
10 28	5 13.19	+13 7.3	1.174	2.007	20.3	19.3	10 28	5 19.39					

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
352634	2008 <i>GB</i> ₆₄		12 4.7 264°25	12°6/ 3.9	17		18065	2000 <i>AM</i> ₄₁		12 4.7 242°60	5°0/ 6.6	18	
10 28	5 31.08	+38 8.4	1.217	1.997	22.7	20.4	10 28	5 15.03	+38 47.1	2.553	3.300	13.0	19.1
11 7	5 26.48	+41 6.1	1.138	1.989	19.5	20.2	11 7	5 9.85	+39 10.8	2.456	3.292	10.7	18.9
11 17	5 16.06	+44 1.3	1.079	1.980	16.0	19.9	11 17	5 2.22	+39 23.0	2.380	3.283	8.3	18.7
11 27	4 59.98	+46 35.5	1.042	1.971	13.3	19.7	11 27	4 52.78	+39 20.5	2.331	3.275	6.0	18.6
12 7	4 39.99	+48 29.5	1.029	1.963	12.7	19.7	12 7	4 42.49	+39 1.4	2.310	3.266	5.0	18.5
12 17	4 19.31	+49 31.9	1.041	1.954	14.8	19.8	12 17	4 32.45	+38 26.4	2.318	3.257	6.1	18.6
12 27	4 1.77	+49 46.0	1.074	1.945	18.2	19.9	12 27	4 23.75	+37 39.2	2.355	3.248	8.5	18.7
1 6	3 50.02	+49 26.7	1.126	1.935	21.8	20.1	1 6	4 17.21	+36 44.8	2.417	3.239	11.1	18.9
235916	2005 <i>EF</i> ₄₅		12 4.7 255°54	2°3/ 3.9	18		228865	2003 <i>GT</i> ₄₇		12 4.7 253°08	0°1/ 4.7	18	
10 28	5 9.46	+15 58.3	2.502	3.294	12.0	20.6	10 28	5 15.79	+22 47.9	1.825	2.623	15.6	21.3
11 7	5 5.09	+15 37.2	2.409	3.287	9.4	20.4	11 7	5 11.01	+22 51.6	1.728	2.609	12.3	21.0
11 17	4 58.82	+15 16.5	2.339	3.279	6.4	20.2	11 17	5 3.34	+22 52.0	1.652	2.595	8.3	20.7
11 27	4 51.20	+14 57.7	2.297	3.271	3.4	20.0	11 27	4 53.40	+22 48.2	1.602	2.580	3.7	20.4
12 7	4 42.93	+14 42.2	2.285	3.263	2.5	19.9	12 7	4 42.28	+22 40.1	1.581	2.565	1.1	20.2
12 17	4 34.84	+14 31.8	2.303	3.255	5.2	20.1	12 17	4 31.31	+22 29.0	1.588	2.550	6.0	20.5
12 27	4 27.74	+14 27.8	2.350	3.247	8.4	20.3	12 27	4 21.84	+22 17.7	1.623	2.534	10.5	20.7
1 6	4 22.29	+14 31.1	2.422	3.239	11.2	20.5	1 6	4 14.90	+22 9.4	1.683	2.518	14.5	21.0
190857	2001 <i>SW</i> ₂₆₅		12 4.7 108°86	3°5/ 5.5	18		90526	<i>Paullorenz</i>		12 4.7 275°37	3°9/ 5.8	18	
10 28	5 19.86	+30 14.7	1.724	2.510	16.8	20.4	10 28	5 17.13	+31 57.9	1.538	2.334	18.1	19.8
11 7	5 14.19	+30 49.4	1.654	2.524	13.4	20.2	11 7	5 12.71	+32 10.7	1.454	2.328	14.5	19.6
11 17	5 5.35	+31 15.6	1.605	2.537	9.4	20.0	11 17	5 4.75	+32 11.4	1.389	2.323	10.4	19.3
11 27	4 54.18	+31 29.5	1.581	2.550	5.4	19.8	11 27	4 54.07	+31 56.2	1.349	2.318	6.1	19.0
12 7	4 42.03	+31 28.9	1.586	2.563	3.6	19.7	12 7	4 42.10	+31 23.6	1.335	2.312	3.9	18.9
12 17	4 30.42	+31 14.8	1.618	2.575	6.5	19.9	12 17	4 30.56	+30 36.1	1.348	2.307	7.1	19.1
12 27	4 20.78	+30 51.5	1.678	2.587	10.4	20.1	12 27	4 21.11	+29 39.9	1.387	2.302	11.6	19.3
1 6	4 14.04	+30 24.6	1.763	2.598	13.9	20.4	1 6	4 14.86	+28 42.8	1.449	2.297	15.7	19.6
457284	2008 <i>RK</i> ₁₀₅		12 4.7 176°52	3°0/ 5.6	18		6856	<i>Bethemmons</i>		12 4.7 202°51	0°5/ 4.8	18	
10 28	5 13.21	+31 31.2	2.556	3.326	12.4	21.4	10 28	5 17.03	+24 27.9	1.980	2.769	14.8	18.4
11 7	5 8.19	+31 57.4	2.467	3.326	9.9	21.2	11 7	5 11.61	+24 23.3	1.889	2.765	11.6	18.2
11 17	5 0.98	+32 16.6	2.401	3.327	7.1	21.0	11 17	5 3.50	+24 13.4	1.820	2.760	7.8	18.0
11 27	4 52.18	+32 26.5	2.362	3.327	4.2	20.9	11 27	4 53.38	+23 57.5	1.778	2.755	3.6	17.7
12 7	4 42.63	+32 26.0	2.353	3.327	3.0	20.8	12 7	4 42.32	+23 35.8	1.765	2.750	1.1	17.5
12 17	4 33.31	+32 15.6	2.374	3.327	5.0	20.9	12 17	4 31.55	+23 10.4	1.782	2.743	5.5	17.8
12 27	4 25.18	+31 57.5	2.424	3.327	7.8	21.1	12 27	4 22.27	+22 44.6	1.828	2.736	9.7	18.0
1 6	4 18.96	+31 35.4	2.500	3.327	10.6	21.3	1 6	4 15.38	+22 21.9	1.898	2.729	13.3	18.2
469480	2002 <i>TP</i> ₇₆		12 4.7 62°89	2°4/ 5.3	16		54598	<i>Bienor</i>		12 4.7 321°31	1°5/ 7.5	18 A	
10 28	5 22.18	+28 16.3	1.293	2.100	20.3	21.5	10 28	4 55.00	+44 27.4	13.549	14.244	2.9	19.2
11 7	5 16.25	+28 24.0	1.249	2.133	15.8	21.3	11 7	4 52.76	+44 33.6	13.447	14.237	2.5	19.2
11 17	5 6.66	+28 21.3	1.225	2.165	10.7	21.1	11 17	4 50.13	+44 36.8	13.370	14.230	2.0	19.1
11 27	4 54.64	+28 5.8	1.223	2.198	5.3	20.9	11 27	4 47.23	+44 36.7	13.319	14.223	1.7	19.1
12 7	4 41.96	+27 37.8	1.249	2.231	2.6	20.8	12 7	4 44.22	+44 33.3	13.298	14.215	1.5	19.1
12 17	4 30.43	+27 1.3	1.301	2.263	6.9	21.2	12 17	4 41.24	+44 26.6	13.305	14.208	1.6	19.1
12 27	4 21.52	+26 22.4	1.379	2.295	11.5	21.5	12 27	4 38.45	+44 17.0	13.341	14.201	2.0	19.1
1 6	4 16.03	+25 47.2	1.480	2.327	15.5	21.8	1 6	4 35.99	+44 5.0	13.404	14.194	2.4	19.2
448017	2008 <i>DB</i> ₇₃		12 4.7 290°67	2°4/ 3.9	18		72840	2001 <i>HW</i> ₃₁		12 4.7 284°31	0°6/ 4.8	18	
10 28	5 11.23	+17 12.7	1.844	2.651	15.1	21.7	10 28	5 13.84	+21 58.3	2.296	3.084	13.1	18.6
11 7	5 7.22	+16 48.9	1.753	2.639	11.8	21.4	11 7	5 8.86	+22 35.4	2.201	3.077	10.2	18.4
11 17	5 0.64	+16 24.5	1.684	2.628	8.0	21.2	11 17	5 1.58	+23 12.5	2.130	3.070	6.9	18.2
11 27	4 52.12	+16 1.4	1.641	2.616	4.1	20.9	11 27	4 52.53	+23 47.7	2.086	3.063	3.1	17.9
12 7	4 42.66	+15 41.6	1.625	2.605	2.8	20.8	12 7	4 42.57	+24 19.8	2.072	3.056	1.1	17.8
12 17	4 33.40	+15 27.5	1.638	2.594	6.5	21.0	12 17	4 32.71	+24 48.0	2.089	3.049	4.9	18.0
12 27	4 25.52	+15 21.4	1.678	2.583	10.6	21.3	12 27	4 24.00	+25 12.8	2.135	3.042	8.5	18.2
1 6	4 19.89	+15 24.5	1.742	2.573	14.3	21.5	1 6	4 17.26	+25 35.7	2.207	3.036	11.7	18.4
462266	2008 <i>EF</i> ₉₁		12 4.7 307°40	18°9/ 5.8	17		391618	2007 <i>VD</i> ₅₁		12 4.7 94°39	1°5/ 5.1	16	
10 28	5 30.97	+50 49.2	1.126	1.878	25.8	20.9	10 28	5 17.57	+27 12.7	1.953	2.739	15.1	21.6
11 7	5 28.38	+53 54.2	1.062	1.871	23.4	20.7	11 7	5 11.75	+27 13.0	1.889	2.762	11.8	21.4
11 17	5 18.57	+56 40.8	1.014	1.864	21.1	20.5	11 17	5 3.35	+27 6.1	1.847	2.784	8.0	21.2
11 27	5 1.51	+58 47.7	0.982	1.858	19.4	20.4	11 27	4 53.20	+26 50.9	1.831	2.806	3.9	21.0
12 7	4 39.53	+59 55.0	0.969	1.851	18.9	20.3	12 7	4 42.43	+26 27.7	1.845	2.828	1.7	20.9
12 17	4 17.38	+59 53.7	0.975	1.845	19.7	20.4	12 17	4 32.26	+25 58.9	1.888	2.849	5.3	21.2
12 27	4 0.24	+58 52.7	0.998	1.839	21.6	20.5	12 27	4 23.77	+25 28.2	1.960	2.870	9.0	21.5
1 6	3 50.99	+57 13.2	1.036	1.834	24.1	20.6	1 6	4 17.70	+24 59.4	2.057	2.890	12.3	21.7
101169	1998 <i>SR</i> ₃		12 4.7 102°31	3°3/ 5.5	18		344624	2003 <i>HC</i> ₆		12 4.7 204°27	0°3/ 4.6	18	
10 28	5 21.90	+30 6.7	1.712	2.495	17.0	19.9	10 28	5 15.79	+22 24.4	1.948	2.742	14.9	22.2
11 7	5 15.64	+30 38.2	1.649	2.516	13.5	19.7	11 7	5 10.64	+22 15.1	1.859	2.738	11.6	21.9
11 17	5 6.21	+31 0.6	1.607	2.538	9.4	19.5	11 17	5 2.85	+22 1.8	1.793	2.735	7.8	21.7
11 27	4 54.52	+31 10.4	1.590	2.559	5.3	19.3	11 27	4 53.10	+21 44.6	1.752	2.730	3.5	21.4
12 7	4 41.98	+31 5.8	1.601	2.579	3.4	19.2	12 7	4 42.44	+21 24.2	1.741	2.725	1.1	21.2
12 17	4 30.11	+30 48.2	1.642	2.599	6.4	19.4	12 17	4 32.06	+21 2.5	1.759	2.720	5.6	21.6
12 27	4 20.31	+30 22.1	1.710	2.618	10.2	19.7	12 27	4 23.15	+20 42.7	1.806	2.714	9.8	21.8
1 6	4 13.46	+29 53.4	1.803	2.637	13.7	20.0	1 6	4 16.59	+20 27.6	1.877	2.708	13.4	22.0
443721	2015 <i>LL</i> ₂		12 4.7 172°02	5°8/ 3.									

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
357401	2003 <i>UE</i> ₂₄₅		12 4.7 35°00	4.3/ 2.9	18		485272	2010 <i>WD</i> ₅₇		12 4.7 68°22	2.6/ 3.7	17	
10 28	5 12.35	+15 39.9	1.718	2.527	15.9	20.6	10 28	5 11.67	+17 38.8	1.982	2.784	14.3	21.2
11 7	5 8.00	+14 23.4	1.643	2.529	12.5	20.3	11 7	5 7.07	+16 51.5	1.913	2.797	11.1	21.0
11 17	5 1.05	+13 4.6	1.589	2.531	8.7	20.1	11 17	5 0.23	+16 2.7	1.867	2.809	7.5	20.8
11 27	4 52.26	+11 48.4	1.562	2.532	5.2	19.9	11 27	4 51.85	+15 14.9	1.847	2.822	3.9	20.6
12 7	4 42.72	+10 40.1	1.563	2.534	4.7	19.9	12 7	4 42.90	+14 31.4	1.857	2.835	3.0	20.6
12 17	4 33.61	+9 44.9	1.592	2.536	7.9	20.1	12 17	4 34.39	+13 55.1	1.895	2.847	6.1	20.8
12 27	4 26.06	+9 6.2	1.647	2.538	11.7	20.3	12 27	4 27.28	+13 28.8	1.961	2.860	9.7	21.1
1 6	4 20.86	+8 45.2	1.725	2.540	15.1	20.5	1 6	4 22.24	+13 13.6	2.052	2.873	12.8	21.3
131398	2001 <i>KZ</i> ₆₄		12 4.7 205°75	6°5/ 2.4	18		145521	2006 <i>EC</i> ₃₀		12 4.7 174°35	6°7/ 7.1	17	
10 28	5 9.13	+0 44.0	2.706	3.469	11.9	20.5	10 28	5 17.82	+43 38.7	2.580	3.303	13.4	20.1
11 7	5 4.58	+0 0.4	2.624	3.466	9.9	20.3	11 7	5 12.23	+44 28.3	2.494	3.304	11.4	20.0
11 17	4 58.38	-0 34.6	2.566	3.462	8.0	20.2	11 17	5 3.93	+45 5.1	2.429	3.305	9.3	19.8
11 27	4 51.00	-0 57.4	2.534	3.458	6.7	20.1	11 27	4 53.62	+45 24.2	2.389	3.305	7.5	19.7
12 7	4 43.10	-1 5.3	2.530	3.454	6.6	20.1	12 7	4 42.34	+45 22.9	2.376	3.306	6.7	19.7
12 17	4 35.39	-0 57.1	2.554	3.449	7.9	20.2	12 17	4 31.35	+45 1.0	2.392	3.306	7.4	19.7
12 27	4 28.56	-0 32.9	2.606	3.445	9.8	20.3	12 27	4 21.87	+44 21.9	2.435	3.306	9.2	19.8
1 6	4 23.19	+0 5.6	2.681	3.439	11.8	20.4	1 6	4 14.78	+43 31.4	2.503	3.306	11.3	20.0
422654	1997 <i>WS</i> ₂₉		12 4.7 54°46	0°9/ 4.8	17		248758	2006 <i>RF</i> ₃₇		12 4.7 53°10	3°0/ 5.5	18	
10 28	5 13.90	+23 2.0	2.200	2.989	13.5	20.6	10 28	5 15.23	+29 40.8	1.763	2.557	16.2	20.3
11 7	5 8.87	+23 39.7	2.122	2.998	10.5	20.4	11 7	5 10.56	+30 3.3	1.690	2.565	12.8	20.1
11 17	5 1.52	+24 16.0	2.067	3.007	7.1	20.2	11 17	5 2.94	+30 17.5	1.638	2.574	9.0	19.9
11 27	4 52.47	+24 49.0	2.040	3.017	3.3	20.0	11 27	4 53.18	+30 20.5	1.612	2.582	5.0	19.7
12 7	4 42.65	+25 17.3	2.043	3.026	1.3	19.8	12 7	4 42.49	+30 11.3	1.612	2.591	3.1	19.6
12 17	4 33.10	+25 40.6	2.075	3.036	4.9	20.1	12 17	4 32.27	+29 51.3	1.641	2.600	6.1	19.8
12 27	4 24.84	+25 59.6	2.137	3.046	8.4	20.3	12 27	4 23.83	+29 24.3	1.697	2.610	10.0	20.1
1 6	4 18.63	+26 16.4	2.224	3.055	11.6	20.6	1 6	4 18.05	+28 55.5	1.777	2.619	13.5	20.3
406756	2008 <i>JN</i> ₃₀		12 4.7 59°92	4°6/ 3.7	18		115710	2003 <i>UY</i> ₁₆₉		12 4.7 113°18	0°9/ 4.4	18	
10 28	5 11.39	+9 23.6	2.038	2.832	14.3	21.2	10 28	5 13.79	+21 19.3	1.821	2.623	15.4	19.9
11 7	5 6.85	+9 3.9	1.963	2.838	11.4	21.0	11 7	5 9.14	+21 1.0	1.742	2.626	12.0	19.7
11 17	5 0.12	+8 50.3	1.912	2.843	8.2	20.8	11 17	5 1.86	+20 39.2	1.685	2.629	8.0	19.5
11 27	4 51.83	+8 45.5	1.886	2.849	5.4	20.7	11 27	4 52.67	+20 14.6	1.654	2.632	3.6	19.2
12 7	4 42.86	+8 51.3	1.888	2.854	4.8	20.7	12 7	4 42.65	+19 48.8	1.651	2.635	1.5	19.1
12 17	4 34.20	+9 8.6	1.919	2.860	7.1	20.8	12 17	4 33.02	+19 24.1	1.677	2.638	5.9	19.4
12 27	4 26.81	+9 37.3	1.978	2.865	10.2	21.0	12 27	4 24.94	+19 3.7	1.731	2.640	10.0	19.6
1 6	4 21.38	+10 16.1	2.060	2.871	13.1	21.2	1 6	4 19.24	+18 50.2	1.809	2.643	13.7	19.9
20651	1999 <i>TE</i> ₂₁₉		12 4.7 146°13	0°9/ 4.4	18		135588	2002 <i>GP</i> ₁₁₁		12 4.7 128°03	5°0/ 3.6	18	
10 28	5 15.19	+20 14.1	1.970	2.765	14.7	19.5	10 28	5 17.09	+11 39.9	1.616	2.417	17.1	20.6
11 7	5 10.00	+20 8.7	1.891	2.771	11.4	19.3	11 7	5 11.74	+11 0.6	1.549	2.429	13.5	20.4
11 17	5 2.31	+20 1.6	1.834	2.777	7.6	19.1	11 17	5 3.57	+10 25.8	1.504	2.440	9.6	20.2
11 27	4 52.82	+19 53.0	1.804	2.782	3.4	18.8	11 27	4 53.41	+9 59.1	1.484	2.450	6.0	20.0
12 7	4 42.56	+19 43.6	1.804	2.787	1.4	18.7	12 7	4 42.44	+9 43.7	1.491	2.460	5.3	20.0
12 17	4 32.65	+19 35.0	1.832	2.792	5.5	19.0	12 17	4 32.00	+9 41.7	1.526	2.470	8.2	20.2
12 27	4 24.19	+19 29.3	1.889	2.796	9.5	19.2	12 27	4 23.31	+9 53.9	1.587	2.479	12.0	20.4
1 6	4 17.99	+19 28.4	1.971	2.800	12.9	19.5	1 6	4 17.19	+10 19.4	1.672	2.487	15.5	20.6
511640	2015 <i>BX</i> ₁₅₃		12 4.7 115°69	3°0/ 4.2	17		475239	2005 <i>WD</i> ₁₆		12 4.7 356°99	0°2/ 4.6	16	
10 28	5 18.82	+15 7.5	1.508	2.313	17.9	21.3	10 28	5 10.72	+22 47.3	1.211	2.047	19.7	21.2
11 7	5 13.36	+15 0.3	1.441	2.326	14.0	21.1	11 7	5 8.10	+22 38.2	1.141	2.043	15.4	20.9
11 17	5 4.79	+14 56.4	1.396	2.338	9.5	20.9	11 17	5 1.87	+22 23.8	1.088	2.040	10.4	20.6
11 27	4 53.98	+14 57.0	1.375	2.350	4.9	20.7	11 27	4 52.87	+22 4.1	1.058	2.038	4.6	20.3
12 7	4 42.24	+15 3.4	1.382	2.361	3.4	20.6	12 7	4 42.58	+21 40.6	1.053	2.037	1.5	20.1
12 17	4 31.05	+15 16.4	1.417	2.372	7.3	20.9	12 17	4 32.77	+21 16.6	1.072	2.038	7.4	20.4
12 27	4 21.80	+15 36.9	1.478	2.383	11.8	21.1	12 27	4 25.13	+20 56.5	1.116	2.039	12.9	20.7
1 6	4 15.40	+16 5.0	1.562	2.393	15.6	21.4	1 6	4 20.77	+20 44.1	1.180	2.042	17.5	21.0
84149	2002 <i>RU</i> ₆₅		12 4.7 13°45	3°6/ 4.0	18		22457	1996 <i>XC</i> ₁₅		12 4.7 294°39	0°0/ 4.5	18	
10 28	5 10.60	+14 34.7	1.455	2.278	17.6	18.9	10 28	5 14.66	+22 50.0	1.425	2.242	18.2	18.0
11 7	5 7.16	+14 17.4	1.387	2.281	13.8	18.7	11 7	5 10.90	+22 49.8	1.337	2.229	14.4	17.7
11 17	5 0.77	+14 3.5	1.340	2.285	9.5	18.5	11 17	5 3.68	+22 45.2	1.269	2.216	9.7	17.4
11 27	4 52.23	+13 55.5	1.316	2.291	5.1	18.2	11 27	4 53.71	+22 35.7	1.224	2.203	4.4	17.0
12 7	4 42.76	+13 55.5	1.319	2.297	3.9	18.2	12 7	4 42.30	+22 21.5	1.206	2.190	1.3	16.8
12 17	4 33.72	+14 4.9	1.348	2.303	7.6	18.4	12 17	4 31.10	+22 4.4	1.214	2.177	7.0	17.1
12 27	4 26.45	+14 24.6	1.402	2.311	11.9	18.7	12 27	4 21.80	+21 48.5	1.247	2.165	12.4	17.4
1 6	4 21.82	+14 54.0	1.478	2.320	15.8	18.9	1 6	4 15.60	+21 37.6	1.303	2.153	17.0	17.6
367561	2009 <i>SB</i> ₇₀		12 4.7 87°23	3°3/ 3.5	18		53146	1999 <i>BG</i> ₁₀		12 4.7 159°22	3°3/ 3.6	18	
10 28	5 10.53	+14 24.9	2.163	2.960	13.4	21.3	10 28	5 12.51	+12 20.2	2.444	3.229	12.5	19.3
11 7	5 6.07	+13 44.3	2.086	2.966	10.5	21.1	11 7	5 7.35	+11 55.7	2.364	3.235	9.8	19.2
11 17	4 59.54	+13 4.6	2.033	2.972	7.3	20.9	11 17	5 0.29	+11 33.9	2.308	3.241	6.9	19.0
11 27	4 51.55	+12 28.6	2.007	2.978	4.2	20.8	11 27	4 51.88	+11 16.9	2.279	3.246	4.1	18.8
12 7	4 42.98	+11 58.9	2.010	2.983	3.6	20.7	12 7	4 42.90	+11 6.4	2.280	3.251	3.6	18.8
12 17	4 34.72	+11 37.8	2.042	2.989	6.2	20.9	12 17	4 34.20	+11 3.9	2.311	3.255	5.9	18.9
12 27	4 27.69	+11 27.0	2.102	2.995	9.4	21.1	12 27	4 26.58	+11 10.2	2.372	3.258	8.8	19.1
1 6	4 22.52	+11 27.1	2.187	3.000	12.4	21.3	1 6	4 20.68	+11 25.2	2.457	3.261	11.5	19.3
306164	2010 <i>ML</i> ₆₈		12 4.7 185°29	0°2/ 4.6	18		206527	2003 <i>UD</i> ₁₆₂		12 4.7 11°30	2°1/ 4.2	18	
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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
69911	1998 <i>SF</i> ₁₅₅		12 4.7 42°66	5°0/ 5.9 18			214818	2006 <i>UC</i> ₃₃₂		12 4.7 156°33	2°7/ 3.9 18		
10 28	5 15.66	+35 33.3	2.170	2.936	14.4	19.0	10 28	5 12.66	+15 31.6	2.012	2.811	14.3	21.0
11 7	5 10.69	+36 23.3	2.088	2.939	11.8	18.9	11 7	5 7.98	+15 11.3	1.932	2.812	11.2	20.8
11 17	5 2.99	+37 3.8	2.029	2.943	8.8	18.7	11 17	5 0.97	+14 52.3	1.874	2.814	7.6	20.6
11 27	4 53.22	+37 30.4	1.994	2.946	6.2	18.5	11 27	4 52.28	+14 36.2	1.842	2.816	4.0	20.3
12 7	4 42.48	+37 40.5	1.988	2.950	5.1	18.5	12 7	4 42.84	+14 24.8	1.839	2.817	3.0	20.3
12 17	4 32.01	+37 34.0	2.010	2.953	6.6	18.6	12 17	4 33.71	+14 19.8	1.866	2.818	6.2	20.5
12 27	4 23.07	+37 13.8	2.060	2.957	9.4	18.7	12 27	4 25.89	+14 22.6	1.920	2.820	9.8	20.7
1 6	4 16.56	+36 45.2	2.135	2.961	12.2	18.9	1 6	4 20.16	+14 33.8	1.999	2.821	13.0	20.9
74328	1998 <i>UB</i> ₄₄		12 4.7 52°00	4°9/ 5.2 18			516893	2011 <i>QO</i> ₂₀		12 4.7 172°43	2°9/ 3.7 18		
10 28	5 21.21	+29 46.2	1.562	2.354	18.0	17.9	10 28	5 14.02	+16 19.8	2.020	2.816	14.3	22.5
11 7	5 15.71	+31 14.6	1.502	2.373	14.4	17.7	11 7	5 8.98	+15 38.4	1.939	2.818	11.2	22.3
11 17	5 6.66	+32 37.0	1.462	2.392	10.3	17.5	11 17	5 1.60	+14 56.2	1.880	2.820	7.6	22.1
11 27	4 54.94	+33 46.4	1.447	2.411	6.4	17.3	11 27	4 52.54	+14 15.7	1.849	2.822	4.1	21.9
12 7	4 41.99	+34 37.3	1.460	2.431	5.0	17.3	12 7	4 42.77	+13 39.6	1.846	2.823	3.3	21.8
12 17	4 29.56	+35 8.1	1.501	2.452	7.6	17.5	12 17	4 33.35	+13 10.9	1.874	2.824	6.4	22.0
12 27	4 19.30	+35 21.6	1.568	2.472	11.3	17.7	12 27	4 25.28	+12 52.1	1.929	2.824	10.0	22.2
1 6	4 12.29	+35 23.9	1.658	2.492	14.7	18.0	1 6	4 19.32	+12 44.2	2.008	2.824	13.2	22.4
173739	2001 <i>QZ</i> ₂₈₆		12 4.7 89°53	0°5/ 4.5 18			205092	1999 <i>TJ</i> ₁₄₆		12 4.7 19°25	2°3/ 4.0 18		
10 28	5 14.85	+22 11.6	1.999	2.793	14.5	21.0	10 28	5 11.24	+19 34.0	1.377	2.203	18.2	19.9
11 7	5 9.54	+21 56.0	1.934	2.813	11.2	20.8	11 7	5 7.84	+18 55.5	1.311	2.208	14.2	19.6
11 17	5 1.87	+21 36.7	1.890	2.833	7.4	20.6	11 17	5 1.30	+18 13.6	1.265	2.214	9.5	19.4
11 27	4 52.59	+21 14.2	1.874	2.852	3.3	20.4	11 27	4 52.51	+17 31.0	1.243	2.221	4.5	19.1
12 7	4 42.73	+20 49.8	1.887	2.871	1.2	20.2	12 7	4 42.79	+16 51.3	1.247	2.228	2.8	19.0
12 17	4 33.38	+20 25.7	1.929	2.889	5.2	20.6	12 17	4 33.64	+16 18.5	1.277	2.237	7.4	19.3
12 27	4 25.54	+20 4.7	2.000	2.908	9.0	20.8	12 27	4 26.41	+15 56.2	1.332	2.246	12.1	19.6
1 6	4 19.89	+19 49.1	2.096	2.926	12.2	21.1	1 6	4 22.00	+15 46.5	1.409	2.255	16.1	19.9
479599	2014 <i>DY</i> ₈		12 4.7 338°47	1°3/ 4.4 18			210844	2001 <i>QK</i> ₁₈₄		12 4.7 93°41	0°5/ 4.9 18		
10 28	5 11.34	+20 32.4	1.292	2.123	18.9	21.1	10 28	5 16.70	+25 36.8	2.138	2.921	14.1	20.1
11 7	5 8.44	+20 20.1	1.214	2.114	14.9	20.8	11 7	5 10.76	+25 15.8	2.075	2.948	10.9	19.9
11 17	5 2.07	+20 4.8	1.155	2.105	10.0	20.5	11 17	5 2.56	+24 48.3	2.035	2.974	7.2	19.7
11 27	4 52.99	+19 47.4	1.118	2.097	4.6	20.1	11 27	4 52.87	+24 14.7	2.023	3.000	3.3	19.5
12 7	4 42.57	+19 29.7	1.107	2.091	2.0	20.0	12 7	4 42.71	+23 36.5	2.041	3.025	1.0	19.4
12 17	4 32.49	+19 14.3	1.121	2.085	7.5	20.3	12 17	4 33.14	+22 56.2	2.089	3.050	4.8	19.7
12 27	4 24.41	+19 4.9	1.159	2.079	12.8	20.6	12 27	4 25.09	+22 17.6	2.166	3.074	8.4	20.0
1 6	4 19.46	+19 4.1	1.219	2.075	17.5	20.8	1 6	4 19.20	+21 43.8	2.270	3.097	11.5	20.2
266450	2007 <i>JH</i> ₂		12 4.7 49°20	7°0/ 3.2 18			98593	2000 <i>WM</i> ₅₅		12 4.7 326°76	4°2/ 4.4 18		
10 28	5 10.41	+1 24.0	2.214	2.989	13.9	20.5	10 28	5 14.20	+10 46.3	1.535	2.344	17.5	18.7
11 7	5 5.91	+0 53.0	2.141	2.993	11.5	20.3	11 7	5 10.08	+10 59.2	1.450	2.335	13.9	18.4
11 17	4 59.42	+0 32.7	2.091	2.996	9.1	20.2	11 17	5 2.90	+11 21.7	1.386	2.326	9.8	18.2
11 27	4 51.53	+0 27.1	2.066	3.000	7.3	20.1	11 27	4 53.32	+11 55.5	1.346	2.317	5.7	17.9
12 7	4 43.04	+0 38.5	2.068	3.004	7.1	20.1	12 7	4 42.51	+12 41.0	1.333	2.309	4.4	17.8
12 17	4 34.83	+1 7.6	2.098	3.007	8.6	20.2	12 17	4 31.86	+13 37.1	1.348	2.302	7.9	18.0
12 27	4 27.75	+1 53.3	2.155	3.011	10.9	20.3	12 27	4 22.83	+14 42.1	1.388	2.295	12.3	18.3
1 6	4 22.43	+2 52.9	2.235	3.015	13.2	20.5	1 6	4 16.50	+15 53.5	1.452	2.288	16.3	18.5
445727	2011 <i>UY</i> ₃₀₂		12 4.7 316°43	2°5/ 5.2 17			208912	2002 <i>TN</i> ₂₈₁		12 4.7 68°74	5°3/ 6.4 18		
10 28	5 12.83	+27 48.1	1.632	2.438	16.7	21.4	10 28	5 21.24	+36 1.7	1.767	2.536	17.1	20.2
11 7	5 9.23	+28 8.6	1.539	2.422	13.4	21.1	11 7	5 15.15	+36 37.8	1.713	2.566	13.8	20.0
11 17	5 2.45	+28 22.5	1.466	2.407	9.3	20.9	11 17	5 5.88	+37 0.2	1.679	2.596	10.2	19.9
11 27	4 53.15	+28 27.0	1.418	2.392	4.9	20.6	11 27	4 54.44	+37 4.4	1.671	2.625	6.8	19.7
12 7	4 42.52	+28 20.6	1.396	2.378	2.6	20.4	12 7	4 42.26	+36 48.7	1.689	2.654	5.3	19.7
12 17	4 32.04	+28 4.2	1.402	2.364	6.5	20.6	12 17	4 30.90	+36 15.4	1.736	2.683	7.1	19.9
12 27	4 23.27	+27 41.3	1.433	2.350	11.1	20.8	12 27	4 21.69	+35 30.0	1.810	2.712	10.1	20.1
1 6	4 17.32	+27 17.2	1.488	2.337	15.3	21.0	1 6	4 15.46	+34 39.9	1.908	2.740	13.2	20.4
410971	2009 <i>TN</i> ₁₉		12 4.7 264°64	5°1/ 2.3 17			445212	2009 <i>DA</i> ₁₁₉		12 4.7 312°19	0°6/ 4.8 17		
10 28	5 9.67	+10 25.3	2.251	3.044	13.1	20.8	10 28	5 12.12	+24 8.9	1.577	2.390	16.9	21.8
11 7	5 5.35	+9 10.7	2.169	3.042	10.5	20.7	11 7	5 8.69	+24 8.8	1.481	2.371	13.4	21.5
11 17	4 59.06	+7 58.0	2.112	3.040	7.7	20.5	11 17	5 2.11	+24 3.4	1.407	2.353	9.1	21.2
11 27	4 51.38	+6 51.5	2.081	3.038	5.5	20.4	11 27	4 53.03	+23 51.8	1.356	2.335	4.2	20.9
12 7	4 43.10	+5 55.4	2.080	3.036	5.4	20.3	12 7	4 42.61	+23 34.3	1.332	2.317	1.3	20.6
12 17	4 35.10	+5 13.3	2.107	3.033	7.5	20.5	12 17	4 32.33	+23 12.6	1.336	2.299	6.5	20.9
12 27	4 28.21	+4 47.2	2.162	3.031	10.3	20.6	12 27	4 23.71	+22 50.7	1.365	2.283	11.5	21.2
1 6	4 23.08	+4 37.3	2.240	3.029	12.9	20.8	1 6	4 17.88	+22 32.6	1.417	2.266	15.9	21.4
301548	2009 <i>FA</i> ₇₄		12 4.7 341°66	3°0/ 3.9 18			79240	Rosanna		12 4.7 180°48	1°4/ 4.3 18		
10 28	5 10.24	+16 55.0	1.488	2.311	17.3	20.7	10 28	5 16.91	+19 27.7	1.964	2.756	14.8	20.3
11 7	5 7.02	+16 28.4	1.408	2.303	13.6	20.4	11 7	5 11.40	+19 11.5	1.879	2.758	11.6	20.1
11 17	5 0.81	+16 1.6	1.348	2.296	9.2	20.2	11 17	5 3.32	+18 53.4	1.817	2.758	7.7	19.9
11 27	4 52.34	+15 37.1	1.313	2.289	4.7	19.9	11 27	4 53.36	+18 34.1	1.782	2.759	3.6	19.6
12 7	4 42.79	+15 17.8	1.303	2.283	3.4	19.8	12 7	4 42.56	+18 15.0	1.776	2.758	1.9	19.5
12 17	4 33.55	+15 6.3	1.320	2.278	7.5	20.0	12 17	4 32.09	+17 58.0	1.800	2.757	5.8	19.7
12 27	4 25.99	+15 5.0	1.362	2.274	12.1	20.3	12 27	4 23.08	+17 45.7	1.852	2.755	9.9	20.0
1 6	4 21.10	+15 15.0	1.426	2.270	16.1	20.5	1 6	4 16.37	+17 40.1	1.929	2.753	13.4	20.2
74084	1998 <i>OA</i> ₁₀		12 4.7 68°70	1°6/ 4.2 18			228828	2003 <i>CS</i> ₁₂		12 4.7 6°28	4°6/ 5.8 18		

EPHEMERIDES

12 4.7

12 4.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
232901	2004 <i>XX</i> ₈₁		12 4.7 302°54	5°6/ 3.4 18			257076	2008 <i>FK</i> ₁₂₈		12 4.7 139°92	0°1/ 4.7 18		
10 28	5 10.59	+ 6 15.9	2.150	2.937	13.8	20.2	10 28	5 12.89	+22 2.3	2.145	2.939	13.7	20.8
11 7	5 6.45	+ 5 56.7	2.046	2.913	11.3	20.0	11 7	5 8.15	+22 5.0	2.062	2.941	10.7	20.6
11 17	5 0.07	+ 5 45.3	1.965	2.889	8.5	19.8	11 17	5 1.11	+22 5.2	2.001	2.943	7.1	20.4
11 27	4 51.98	+ 5 45.1	1.910	2.864	6.2	19.6	11 27	4 52.39	+22 2.7	1.967	2.944	3.2	20.1
12 7	4 42.96	+ 5 58.6	1.883	2.840	5.8	19.5	12 7	4 42.92	+21 57.6	1.962	2.946	1.0	20.0
12 17	4 33.96	+ 6 26.9	1.884	2.816	7.9	19.6	12 17	4 33.71	+21 51.2	1.987	2.948	5.0	20.3
12 27	4 26.00	+ 7 9.7	1.912	2.792	10.9	19.7	12 27	4 25.80	+21 45.4	2.040	2.949	8.8	20.5
1 6	4 19.89	+ 8 5.3	1.965	2.768	14.0	19.9	1 6	4 19.94	+21 42.3	2.119	2.950	12.0	20.7
337937	2001 <i>YK</i> ₂₃		12 4.7 12°84	1°0/ 4.9 18			24091	1999 <i>UC</i> ₉		12 4.7 46°29	2°0/ 5.1 18		
10 28	5 11.87	+24 21.2	1.183	2.017	20.1	20.5	10 28	5 17.24	+26 1.4	1.420	2.230	18.6	18.7
11 7	5 9.07	+24 30.8	1.119	2.020	15.8	20.2	11 7	5 12.84	+26 25.1	1.346	2.233	14.7	18.4
11 17	5 2.54	+24 34.6	1.074	2.024	10.6	20.0	11 17	5 4.90	+26 43.0	1.292	2.235	10.0	18.2
11 27	4 53.20	+24 31.3	1.051	2.030	4.9	19.7	11 27	4 54.26	+26 52.3	1.262	2.238	4.9	17.9
12 7	4 42.62	+24 20.8	1.052	2.036	1.6	19.5	12 7	4 42.36	+26 51.5	1.259	2.242	2.3	17.7
12 17	4 32.65	+24 5.3	1.078	2.044	7.3	19.8	12 17	4 30.92	+26 41.5	1.282	2.245	6.9	18.0
12 27	4 24.98	+23 49.4	1.128	2.053	12.6	20.2	12 27	4 21.61	+26 26.5	1.331	2.248	11.8	18.3
1 6	4 20.68	+23 37.3	1.199	2.063	17.2	20.5	1 6	4 15.51	+26 11.4	1.402	2.252	16.0	18.6
126696	2002 <i>CJ</i> ₂₂₉		12 4.7 138°32	0°2/ 4.8 18			311325	2005 <i>NO</i> ₂₃		12 4.7 324°61	0°2/ 4.6 18		
10 28	5 12.86	+23 34.6	2.247	3.037	13.2	20.6	10 28	5 12.02	+24 20.3	1.796	2.601	15.5	20.5
11 7	5 7.99	+23 28.9	2.165	3.042	10.3	20.5	11 7	5 7.97	+23 47.2	1.709	2.595	12.1	20.3
11 17	5 0.91	+23 19.1	2.105	3.046	6.9	20.2	11 17	5 1.23	+23 6.6	1.644	2.589	8.1	20.0
11 27	4 52.25	+23 5.0	2.073	3.051	3.1	20.0	11 27	4 52.50	+22 19.2	1.605	2.583	3.6	19.7
12 7	4 42.92	+22 47.5	2.070	3.055	0.9	19.8	12 7	4 42.89	+21 27.5	1.593	2.578	1.2	19.5
12 17	4 33.89	+22 28.0	2.098	3.059	4.8	20.1	12 17	4 33.63	+20 35.2	1.611	2.573	5.8	19.9
12 27	4 26.14	+22 9.1	2.154	3.062	8.4	20.4	12 27	4 25.91	+19 46.9	1.655	2.568	10.2	20.1
1 6	4 20.36	+21 53.3	2.235	3.066	11.5	20.6	1 6	4 20.60	+19 6.9	1.724	2.563	14.0	20.3
267058	1998 <i>VR</i> ₄₈		12 4.7 42°36	0°5/ 4.6 18			261371	2005 <i>UU</i> ₃₅₀		12 4.7 109°10	2°2/ 5.5 18		
10 28	5 11.53	+21 47.3	1.913	2.717	14.7	20.7	10 28	5 14.14	+29 25.4	2.116	2.899	14.2	20.5
11 7	5 7.20	+21 38.0	1.845	2.730	11.4	20.5	11 7	5 9.24	+29 27.5	2.034	2.904	11.2	20.4
11 17	5 0.46	+21 25.6	1.799	2.744	7.6	20.3	11 17	5 1.87	+29 21.5	1.975	2.909	7.7	20.1
11 27	4 52.06	+21 10.6	1.780	2.758	3.3	20.1	11 27	4 52.73	+29 5.9	1.942	2.914	4.1	19.9
12 7	4 43.00	+21 54.0	1.788	2.773	1.2	19.9	12 7	4 42.84	+28 40.6	1.937	2.918	2.2	19.8
12 17	4 34.37	+20 37.8	1.826	2.787	5.3	20.3	12 17	4 33.32	+28 7.6	1.963	2.923	5.2	20.0
12 27	4 27.22	+20 24.3	1.891	2.803	9.2	20.5	12 27	4 25.25	+27 30.6	2.017	2.927	8.8	20.3
1 6	4 22.24	+20 15.8	1.981	2.818	12.5	20.8	1 6	4 19.42	+26 53.8	2.096	2.932	12.0	20.5
488687	2003 <i>US</i> ₄₁₆		12 4.7 63°11	5°6/ 2.8 18			393733	2005 <i>AV</i> ₇₁		12 4.7 8°44	2°4/ 5.3 18		
10 28	5 9.50	+ 7 41.5	2.172	2.964	13.6	21.3	10 28	5 14.90	+28 27.2	1.648	2.449	16.8	21.3
11 7	5 5.20	+ 6 46.3	2.105	2.974	10.9	21.2	11 7	5 10.60	+28 39.2	1.569	2.449	13.3	21.1
11 17	4 58.95	+ 5 56.7	2.061	2.984	8.1	21.0	11 17	5 3.18	+28 42.9	1.511	2.450	9.2	20.9
11 27	4 51.35	+ 5 16.7	2.043	2.995	6.0	20.9	11 27	4 53.43	+28 36.1	1.477	2.450	4.8	20.6
12 7	4 43.21	+ 4 49.5	2.053	3.005	5.8	20.9	12 7	4 42.62	+28 18.0	1.470	2.451	2.6	20.5
12 17	4 35.42	+ 4 37.4	2.091	3.015	7.7	21.0	12 17	4 32.21	+27 50.4	1.491	2.452	6.2	20.7
12 27	4 28.79	+ 4 40.8	2.156	3.026	10.3	21.2	12 27	4 23.64	+27 17.9	1.538	2.454	10.6	21.0
1 6	4 23.95	+ 4 58.6	2.244	3.036	12.8	21.4	1 6	4 17.87	+26 45.7	1.609	2.455	14.5	21.2
201728	2003 <i>UM</i> ₁₉₉		12 4.7 111°83	0°8/ 4.9 17			312820	2011 <i>SG</i> ₃₁		12 4.7 21°30	2°0/ 3.9 17		
10 28	5 12.18	+25 7.6	2.406	3.192	12.6	20.8	10 28	5 7.01	+16 44.0	2.542	3.340	11.7	20.5
11 7	5 7.34	+25 9.7	2.325	3.199	9.8	20.6	11 7	5 3.15	+16 22.3	2.464	3.345	9.1	20.3
11 17	5 0.42	+25 7.3	2.267	3.206	6.6	20.4	11 17	4 57.55	+16 0.7	2.410	3.352	6.1	20.1
11 27	4 52.03	+24 59.9	2.237	3.213	3.1	20.2	11 27	4 50.75	+15 40.8	2.384	3.358	3.1	19.9
12 7	4 43.01	+24 47.8	2.236	3.220	1.1	20.0	12 7	4 43.44	+15 24.0	2.387	3.365	2.2	19.9
12 17	4 34.28	+24 32.1	2.265	3.226	4.5	20.3	12 17	4 36.38	+15 11.8	2.419	3.373	4.9	20.1
12 27	4 26.76	+24 15.2	2.324	3.233	7.8	20.5	12 27	4 30.31	+15 5.6	2.480	3.381	7.8	20.3
1 6	4 21.10	+23 59.6	2.409	3.239	10.8	20.7	1 6	4 25.80	+15 6.2	2.567	3.389	10.5	20.5
169916	2002 <i>SH</i> ₁₀		12 4.7 3°97	5°5/ 5.7 18			175644	2007 <i>VK</i> ₁₆₆		12 4.7 356°86	0°9/ 4.5 18		
10 28	5 16.18	+33 2.8	1.619	2.411	17.5	19.7	10 28	5 12.15	+21 22.6	1.629	2.442	16.5	20.3
11 7	5 12.00	+34 4.7	1.541	2.410	14.2	19.5	11 7	5 8.28	+21 4.7	1.551	2.441	12.9	20.0
11 17	5 4.37	+34 57.9	1.484	2.410	10.5	19.2	11 17	5 1.53	+20 43.0	1.493	2.440	8.6	19.8
11 27	4 54.05	+35 36.4	1.451	2.411	6.9	19.0	11 27	4 52.67	+20 18.3	1.460	2.439	3.9	19.5
12 7	4 42.37	+35 56.1	1.444	2.412	5.5	19.0	12 7	4 42.86	+19 52.5	1.455	2.438	1.6	19.4
12 17	4 31.01	+35 56.1	1.463	2.414	7.8	19.1	12 17	4 33.42	+19 28.1	1.477	2.438	6.3	19.7
12 27	4 21.62	+35 40.3	1.509	2.416	11.4	19.3	12 27	4 25.64	+19 8.5	1.525	2.439	10.8	19.9
1 6	4 15.34	+35 15.1	1.578	2.419	15.0	19.5	1 6	4 20.43	+18 56.4	1.597	2.440	14.7	20.2
184898	2005 <i>UA</i> ₂₆₃		12 4.7 42°87	1°4/ 4.3 17			464364	2016 <i>AB</i> ₁₄₈		12 4.7 15°77	4°4/ 3.7 18		
10 28	5 11.99	+19 25.9	1.886	2.691	14.9	20.8	10 28	5 10.23	+10 0.6	2.042	2.840	14.1	20.2
11 7	5 7.64	+19 12.0	1.811	2.696	11.6	20.6	11 7	5 6.04	+ 9 40.9	1.966	2.842	11.2	20.0
11 17	5 0.84	+18 56.7	1.758	2.702	7.7	20.3	11 17	4 59.68	+ 9 26.9	1.911	2.844	8.0	19.8
11 27	4 52.27	+18 40.8	1.730	2.708	3.6	20.1	11 27	4 51.76	+ 9 21.1	1.883	2.847	5.2	19.7
12 7	4 42.95	+18 25.9	1.731	2.714	1.8	20.0	12 7	4 43.15	+ 9 25.4	1.882	2.850	4.6	19.6
12 17	4 34.00	+18 13.6	1.761	2.720	5.7	20.3	12 17	4 34.81	+ 9 40.8	1.910	2.853	7.0	19.8
12 27	4 26.50	+18 6.2	1.818	2.727	9.7	20.5	12 27	4 27.69	+10 7.3	1.965	2.856	10.1	20.0
1 6	4 21.20	+18 5.3	1.900	2.734	13.1	20.7	1 6	4 22.51	+10 43.9	2.045	2.860	13.1	20.2
334283	2001 <i>UM</i> ₁₄₈		12 4.7 29°30	0°5/									

EPHEMERIDES

12 4.7

12 4.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
74815	1999 <i>TG</i> ₈		12 4.7	0°94	6°2/ 6.1	18	124099	2001 <i>HG</i> ₄₁		12 4.7	178°10	5°1/ 2.8	18
10 28	5 14.54	+33 42.2	1.170	1.989	21.3	17.7	10 28	5 9.37	+ 2 58.4	3.109	3.871	10.5	20.8
11 7	5 11.82	+34 27.5	1.102	1.986	17.4	17.4	11 7	5 4.58	+ 2 25.8	3.028	3.873	8.7	20.6
11 17	5 4.81	+34 59.0	1.050	1.985	12.8	17.2	11 17	4 58.34	+ 1 59.9	2.970	3.874	6.8	20.5
11 27	4 54.40	+35 9.9	1.020	1.985	8.3	16.9	11 27	4 51.09	+ 1 43.4	2.941	3.875	5.4	20.4
12 7	4 42.36	+34 56.3	1.013	1.986	6.2	16.8	12 7	4 43.40	+ 1 38.2	2.940	3.875	5.3	20.4
12 17	4 30.90	+34 19.6	1.030	1.988	9.0	17.0	12 17	4 35.90	+ 1 45.3	2.969	3.875	6.5	20.5
12 27	4 22.12	+33 27.3	1.070	1.991	13.6	17.2	12 27	4 29.17	+ 2 4.7	3.027	3.874	8.4	20.6
1 6	4 17.28	+32 29.7	1.131	1.994	18.0	17.5	1 6	4 23.73	+ 2 35.3	3.110	3.873	10.2	20.8
234514	2001 <i>TW</i> ₂₄₀		12 4.7	119°80	5°2/ 6.2	17 R	221762	2007 <i>FK</i> ₂₆		12 4.7	319°55	0°1/ 4.7	17
10 28	5 16.12	+38 16.6	2.720	3.462	12.4	20.4	10 28	5 11.84	+22 40.7	2.136	2.932	13.7	21.2
11 7	5 10.66	+39 13.7	2.635	3.466	10.2	20.3	11 7	5 7.38	+22 32.6	2.050	2.931	10.6	21.0
11 17	5 2.82	+40 1.6	2.572	3.470	7.9	20.1	11 17	5 0.64	+22 20.9	1.987	2.930	7.1	20.7
11 27	4 53.21	+40 36.5	2.537	3.474	5.9	20.0	11 27	4 52.22	+22 5.6	1.951	2.929	3.2	20.5
12 7	4 42.72	+40 55.6	2.530	3.478	5.2	20.0	12 7	4 43.06	+21 47.7	1.943	2.928	1.0	20.3
12 17	4 32.40	+40 58.6	2.553	3.482	6.2	20.0	12 17	4 34.17	+21 28.7	1.965	2.927	5.0	20.6
12 27	4 23.32	+40 47.5	2.604	3.486	8.3	20.2	12 27	4 26.56	+21 11.3	2.016	2.926	8.8	20.9
1 6	4 16.28	+40 26.5	2.681	3.490	10.5	20.3	1 6	4 20.98	+20 57.8	2.092	2.925	12.1	21.1
304988	2007 <i>TB</i> ₂₂₈		12 4.7	216°42	2°0/ 5.2	18	167949	2005 <i>EX</i> ₂₁₂		12 4.7	328°82	0°6/ 4.6	18
10 28	5 15.55	+27 13.5	1.877	2.669	15.4	21.1	10 28	5 13.36	+21 30.2	1.732	2.539	15.9	20.2
11 7	5 10.76	+27 32.0	1.792	2.668	12.2	20.9	11 7	5 9.10	+21 21.6	1.650	2.536	12.4	19.9
11 17	5 3.15	+27 44.5	1.729	2.667	8.4	20.7	11 17	5 2.06	+21 9.9	1.589	2.534	8.3	19.7
11 27	4 53.41	+27 48.9	1.691	2.665	4.3	20.5	11 27	4 52.93	+20 55.3	1.553	2.532	3.7	19.4
12 7	4 42.67	+27 44.1	1.682	2.663	2.2	20.3	12 7	4 42.84	+20 38.8	1.546	2.530	1.3	19.2
12 17	4 32.22	+27 31.2	1.701	2.662	5.7	20.5	12 17	4 33.08	+20 22.4	1.566	2.528	6.0	19.6
12 27	4 23.36	+27 13.1	1.748	2.660	9.8	20.8	12 27	4 24.90	+20 9.1	1.613	2.526	10.4	19.8
1 6	4 17.00	+26 54.1	1.820	2.658	13.4	21.0	1 6	4 19.20	+20 1.3	1.685	2.524	14.3	20.1
447595	2006 <i>UL</i> ₆₇		12 4.7	44°24	1°1/ 4.9	18	197756	2004 <i>PJ</i> ₃₄		12 4.7	81°12	1°5/ 5.1	18
10 28	5 14.53	+24 18.2	1.766	2.567	15.9	20.7	10 28	5 19.17	+26 41.0	1.622	2.418	17.3	20.8
11 7	5 9.97	+24 40.1	1.691	2.574	12.4	20.5	11 7	5 13.53	+26 45.6	1.563	2.442	13.5	20.6
11 17	5 2.59	+24 58.4	1.638	2.580	8.4	20.3	11 17	5 4.85	+26 42.9	1.525	2.465	9.1	20.4
11 27	4 53.15	+25 11.4	1.610	2.587	3.9	20.1	11 27	4 54.07	+26 31.2	1.512	2.488	4.4	20.2
12 7	4 42.77	+25 18.2	1.611	2.594	1.5	19.9	12 7	4 42.55	+26 10.6	1.527	2.511	1.8	20.0
12 17	4 32.77	+25 19.4	1.639	2.602	5.7	20.2	12 17	4 31.76	+25 43.8	1.571	2.533	6.0	20.4
12 27	4 24.41	+25 17.4	1.695	2.609	9.9	20.5	12 27	4 22.99	+25 15.1	1.642	2.555	10.2	20.7
1 6	4 18.58	+25 15.3	1.776	2.617	13.6	20.7	1 6	4 17.04	+24 48.8	1.737	2.577	13.9	20.9
369415	2009 <i>WN</i> ₁₀₁		12 4.7	300°70	2°4/ 3.6	17	311610	2006 <i>OE</i> ₁₇		12 4.7	66°11	9°6/ 2.4	18
10 28	5 10.57	+18 47.7	2.226	3.024	13.1	20.7	10 28	5 12.09	- 0 56.4	1.778	2.559	16.6	19.8
11 7	5 6.18	+17 49.6	2.139	3.020	10.2	20.5	11 7	5 7.51	- 2 11.6	1.728	2.576	14.0	19.6
11 17	4 59.71	+16 47.7	2.075	3.017	6.9	20.3	11 17	5 0.61	- 3 12.5	1.698	2.593	11.5	19.5
11 27	4 51.76	+15 44.7	2.038	3.013	3.5	20.1	11 27	4 52.14	- 3 52.8	1.692	2.611	9.8	19.5
12 7	4 43.19	+14 43.9	2.031	3.009	2.7	20.0	12 7	4 43.11	- 4 8.2	1.712	2.628	9.8	19.5
12 17	4 34.90	+13 49.3	2.054	3.006	5.8	20.2	12 17	4 34.58	- 3 57.3	1.757	2.646	11.2	19.6
12 27	4 27.81	+13 4.1	2.106	3.003	9.2	20.4	12 27	4 27.53	- 3 22.0	1.826	2.664	13.4	19.8
1 6	4 22.58	+12 30.4	2.183	2.999	12.3	20.6	1 6	4 22.62	- 2 26.5	1.916	2.681	15.6	20.0
516162	2016 <i>NL</i> ₄₇		12 4.7	49°24	3°4/ 5.5	18	166570	Adolfträger		12 4.7	327°71	2°5/ 5.6	17
10 28	5 17.92	+29 28.3	1.272	2.085	20.2	21.3	10 28	5 12.00	+30 32.1	2.186	2.970	13.8	19.6
11 7	5 13.54	+29 50.7	1.215	2.101	16.0	21.1	11 7	5 7.55	+30 34.7	2.106	2.975	10.9	19.4
11 17	5 5.35	+30 2.4	1.178	2.118	11.1	20.9	11 17	5 0.74	+30 28.6	2.048	2.980	7.6	19.2
11 27	4 54.41	+29 59.7	1.163	2.136	6.0	20.6	11 27	4 52.25	+30 12.4	2.016	2.986	4.2	19.0
12 7	4 42.43	+29 41.6	1.173	2.154	3.5	20.5	12 7	4 43.06	+29 46.3	2.012	2.991	2.5	18.9
12 17	4 31.28	+29 10.9	1.210	2.172	7.3	20.8	12 17	4 34.23	+29 11.9	2.038	2.997	5.1	19.1
12 27	4 22.65	+28 33.8	1.271	2.190	12.0	21.1	12 27	4 26.79	+28 33.0	2.092	3.004	8.5	19.3
1 6	4 17.49	+27 57.2	1.354	2.209	16.1	21.5	1 6	4 21.47	+27 53.8	2.172	3.010	11.5	19.5
129244	2005 <i>QC</i> ₂₁		12 4.7	60°76	0°0/ 4.6	18	43070	1999 <i>VD</i> ₁₆₁		12 4.7	247°62	0°3/ 4.8	17
10 28	5 18.44	+22 31.1	1.335	2.150	19.3	19.6	10 28	5 11.89	+24 3.8	2.267	3.058	13.1	19.0
11 7	5 13.42	+22 37.0	1.282	2.173	15.0	19.4	11 7	5 7.33	+23 57.7	2.177	3.054	10.2	18.8
11 17	5 4.99	+22 39.1	1.249	2.196	9.9	19.1	11 17	5 0.57	+23 47.1	2.110	3.051	6.9	18.6
11 27	4 54.17	+22 36.5	1.240	2.219	4.4	18.9	11 27	4 52.19	+23 31.9	2.070	3.047	3.1	18.3
12 7	4 42.51	+22 29.5	1.257	2.242	1.3	18.7	12 7	4 43.08	+23 12.8	2.059	3.044	0.9	18.1
12 17	4 31.68	+22 20.2	1.302	2.265	6.7	19.2	12 17	4 34.20	+22 51.2	2.079	3.040	4.8	18.4
12 27	4 23.13	+22 11.8	1.372	2.289	11.5	19.5	12 27	4 26.55	+22 29.9	2.127	3.036	8.4	18.6
1 6	4 17.74	+22 7.7	1.465	2.312	15.6	19.8	1 6	4 20.84	+22 11.5	2.200	3.033	11.6	18.8
491492	2012 <i>HJ</i> ₆₆		12 4.7	210°15	0°3/ 4.6	17	416779	2005 <i>GR</i> ₇		12 4.7	302°98	0°6/ 4.8	16
10 28	5 12.60	+20 26.8	2.582	3.366	11.9	22.1	10 28	5 16.97	+20 25.0	2.206	2.990	13.6	21.1
11 7	5 7.60	+20 40.8	2.488	3.362	9.3	21.9	11 7	5 11.82	+21 20.5	2.085	2.959	10.8	20.8
11 17	5 0.63	+20 54.3	2.419	3.359	6.2	21.7	11 17	5 4.00	+22 19.9	1.988	2.927	7.4	20.6
11 27	4 52.19	+21 6.8	2.377	3.354	2.8	21.5	11 27	4 53.94	+23 21.1	1.918	2.895	3.4	20.3
12 7	4 43.06	+21 18.0	2.366	3.350	0.9	21.3	12 7	4 42.49	+24 21.2	1.879	2.863	1.2	20.0
12 17	4 34.07	+21 28.4	2.385	3.345	4.4	21.6	12 17	4 30.75	+25 17.9	1.871	2.831	5.4	20.3
12 27	4 26.09	+21 38.8	2.435	3.340	7.7	21.8	12 27	4 20.00	+26 10.1	1.893	2.799	9.5	20.4
1 6	4 19.81	+21 50.6	2.511	3.335	10.6	22.0	1 6	4 11.32	+26 58.3	1.941	2.767	13.2	20.6
50637	2000 <i>EG</i> ₇₉		12 4.7	47°54	3°7/ 4.1	18	142325	2002 <i>RB</i> ₁₇₅		12 4.7	107°28	0°5/ 4.	

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V		
448364	2009 <i>HO</i> ₅₁	12	4.7	150°47'	4°8'	2.9	18	28412	1999 <i>UY</i> ₁₃	12	4.7	300°53'	2°3'	4.3	18
10 28	5 12.03	+ 9 10.9	2.384	3.168	12.8	22.0	10 28	5 13.84	+17 59.3	1.388	2.209	18.4	17.8		
11 7	5 7.02	+ 8 18.6	2.309	3.176	10.2	21.9	11 7	5 10.31	+17 46.4	1.300	2.195	14.5	17.5		
11 17	5 0.13	+ 7 30.2	2.258	3.183	7.5	21.7	11 17	5 3.38	+17 33.4	1.232	2.180	9.9	17.2		
11 27	4 51.92	+ 6 49.1	2.234	3.190	5.3	21.6	11 27	4 53.74	+17 21.6	1.188	2.165	4.8	16.9		
12 7	4 43.19	+ 6 18.3	2.239	3.196	5.0	21.6	12 7	4 42.65	+17 12.8	1.169	2.151	2.8	16.7		
12 17	4 34.76	+ 6 0.0	2.274	3.202	7.0	21.7	12 17	4 31.72	+17 9.1	1.177	2.137	7.7	17.0		
12 27	4 27.43	+ 5 55.3	2.337	3.207	9.6	21.9	12 27	4 22.62	+17 13.1	1.209	2.123	13.0	17.2		
1 6	4 21.82	+ 6 3.6	2.424	3.212	12.1	22.1	1 6	4 16.56	+17 26.6	1.263	2.110	17.6	17.4		
45727	2000 <i>GQ</i> ₈₃	12	4.7	82°28'	3°8'	3.7	18	511865	2015 <i>GE</i> ₂₀	12	4.7	211°75'	2°8'	5.3	18
10 28	5 10.38	+10 38.1	2.341	3.132	12.8	18.8	10 28	5 19.87	+28 20.0	1.743	2.530	16.6	22.4		
11 7	5 5.85	+10 18.2	2.266	3.139	10.1	18.6	11 7	5 14.53	+28 51.6	1.653	2.525	13.2	22.2		
11 17	4 59.41	+10 2.9	2.214	3.146	7.2	18.4	11 17	5 5.93	+29 16.9	1.585	2.520	9.2	21.9		
11 27	4 51.63	+ 9 54.1	2.188	3.153	4.6	18.3	11 27	4 54.79	+29 32.4	1.543	2.514	5.0	21.7		
12 7	4 43.28	+ 9 53.6	2.192	3.160	4.0	18.3	12 7	4 42.35	+29 35.7	1.528	2.508	3.0	21.5		
12 17	4 35.20	+10 2.4	2.225	3.167	6.2	18.4	12 17	4 30.16	+29 27.0	1.542	2.501	6.4	21.7		
12 27	4 28.21	+10 20.7	2.286	3.174	9.0	18.6	12 27	4 19.74	+29 9.7	1.584	2.494	10.8	22.0		
1 6	4 22.94	+10 47.9	2.372	3.181	11.7	18.8	1 6	4 12.21	+28 49.1	1.649	2.486	14.7	22.2		
269687	1996 <i>GR</i> ₆	12	4.7	199°71'	0°0'	4.6	18	47285	1999 <i>VU</i> ₁₇₃	12	4.7	148°59'	1°3'	4.5	18
10 28	5 16.92	+22 24.2	1.914	2.707	15.1	21.4	10 28	5 18.05	+18 42.6	1.657	2.458	16.7	19.0		
11 7	5 11.66	+22 26.2	1.826	2.704	11.9	21.2	11 7	5 12.78	+18 48.2	1.580	2.463	13.1	18.8		
11 17	5 3.68	+22 25.1	1.760	2.701	7.9	20.9	11 17	5 4.54	+18 54.1	1.525	2.468	8.8	18.6		
11 27	4 53.66	+22 20.2	1.720	2.698	3.6	20.7	11 27	4 54.07	+19 0.4	1.495	2.473	4.0	18.3		
12 7	4 42.66	+22 11.8	1.709	2.693	1.1	20.5	12 7	4 42.59	+19 7.1	1.494	2.477	1.8	18.2		
12 17	4 31.93	+22 1.1	1.728	2.689	5.6	20.8	12 17	4 31.51	+19 15.0	1.521	2.481	6.4	18.5		
12 27	4 22.70	+21 50.7	1.775	2.684	9.9	21.0	12 27	4 22.16	+19 25.7	1.575	2.484	10.9	18.7		
1 6	4 15.88	+21 43.5	1.846	2.678	13.6	21.3	1 6	4 15.50	+19 40.8	1.653	2.487	14.8	19.0		
333032	2011 <i>SC</i> ₆₅	12	4.7	251°49'	1°6'	5.3	18	134061	2004 <i>XG</i> ₄₅	12	4.7	356°56'	5°7'	3.8	18
10 28	5 15.02	+28 11.2	1.818	2.612	15.8	21.0	10 28	5 8.25	+11 51.9	1.189	2.028	19.7	18.0		
11 7	5 10.38	+27 59.8	1.732	2.609	12.5	20.8	11 7	5 6.06	+11 18.9	1.121	2.022	15.7	17.7		
11 17	5 2.90	+27 39.3	1.667	2.606	8.5	20.6	11 17	5 0.51	+10 52.1	1.072	2.018	11.2	17.5		
11 27	4 53.31	+27 8.5	1.628	2.603	4.2	20.3	11 27	4 52.39	+10 36.3	1.044	2.015	7.0	17.2		
12 7	4 42.78	+26 28.1	1.617	2.600	1.8	20.1	12 7	4 43.08	+10 35.6	1.040	2.014	6.0	17.2		
12 17	4 32.63	+25 40.9	1.634	2.597	5.7	20.4	12 17	4 34.16	+10 51.9	1.061	2.014	9.6	17.4		
12 27	4 24.14	+24 51.9	1.680	2.594	10.0	20.6	12 27	4 27.21	+11 25.3	1.104	2.016	14.2	17.6		
1 6	4 18.21	+24 6.3	1.750	2.590	13.8	20.9	1 6	4 23.28	+12 13.5	1.167	2.019	18.4	17.9		
417770	2007 <i>DN</i> ₁₁₂	12	4.7	131°94'	2°3'	5.2	18	320884	2008 <i>GH</i> ₃₂	12	4.7	22°46'	4°1'	4.3	18
10 28	5 16.98	+28 2.1	2.734	3.499	11.8	21.2	10 28	5 14.41	+13 5.2	1.222	2.050	20.0	19.8		
11 7	5 10.96	+28 51.1	2.651	3.510	9.3	21.1	11 7	5 10.72	+13 3.4	1.159	2.054	15.8	19.5		
11 17	5 2.85	+29 36.2	2.592	3.521	6.5	20.9	11 17	5 3.53	+13 8.9	1.114	2.060	10.9	19.3		
11 27	4 53.20	+30 14.8	2.563	3.531	3.6	20.7	11 27	4 53.70	+13 23.7	1.091	2.066	6.0	19.0		
12 7	4 42.82	+30 44.9	2.564	3.541	2.4	20.7	12 7	4 42.70	+13 48.9	1.094	2.072	4.4	19.0		
12 17	4 32.62	+31 6.1	2.596	3.550	4.6	20.8	12 17	4 32.22	+14 24.3	1.122	2.080	8.5	19.2		
12 27	4 23.53	+31 19.4	2.660	3.560	7.4	21.0	12 27	4 23.86	+15 9.2	1.174	2.088	13.3	19.5		
1 6	4 16.26	+31 27.3	2.750	3.568	10.0	21.2	1 6	4 18.68	+16 1.9	1.247	2.096	17.6	19.8		
292916	2006 <i>VS</i> ₆₁	12	4.7	65°58'	1°1'	4.4	18	476511	2008 <i>GP</i> ₅₂	12	4.7	137°62'	2°3'	4.1	16
10 28	5 18.63	+23 22.1	1.306	2.122	19.6	20.2	10 28	5 17.25	+17 54.0	1.760	2.558	16.0	22.6		
11 7	5 13.46	+22 32.2	1.255	2.146	15.2	20.0	11 7	5 11.82	+17 26.9	1.687	2.569	12.5	22.4		
11 17	5 4.91	+21 34.7	1.223	2.170	10.0	19.8	11 17	5 3.68	+16 58.7	1.637	2.578	8.4	22.2		
11 27	4 54.10	+20 32.0	1.215	2.194	4.4	19.5	11 27	4 53.61	+16 31.1	1.612	2.588	4.1	22.0		
12 7	4 42.61	+19 28.4	1.234	2.218	1.9	19.4	12 7	4 42.75	+16 6.4	1.616	2.596	2.7	21.9		
12 17	4 32.10	+18 29.7	1.280	2.241	7.1	19.8	12 17	4 32.36	+15 47.0	1.649	2.604	6.5	22.2		
12 27	4 23.93	+17 41.3	1.352	2.265	12.0	20.2	12 27	4 23.64	+15 35.5	1.709	2.612	10.6	22.4		
1 6	4 18.88	+17 6.8	1.446	2.289	16.0	20.5	1 6	4 17.39	+15 33.2	1.794	2.619	14.2	22.7		
96146	3834 <i>T</i> ₋₃	12	4.7	339°64'	0°4'	4.8	18	373092	2011 <i>FB</i> ₁₄₁	12	4.7	186°48'	6°6'	7.0	17
10 28	5 11.74	+22 34.9	1.312	2.140	18.9	19.1	10 28	5 17.96	+43 55.3	2.749	3.466	12.8	20.8		
11 7	5 8.90	+22 49.8	1.232	2.130	14.9	18.8	11 7	5 12.31	+44 50.8	2.660	3.466	10.9	20.7		
11 17	5 2.53	+23 2.0	1.171	2.120	10.1	18.5	11 17	5 4.06	+45 34.3	2.594	3.465	8.9	20.6		
11 27	4 53.35	+23 10.4	1.133	2.112	4.6	18.2	11 27	4 53.85	+46 1.1	2.553	3.465	7.3	20.5		
12 7	4 42.74	+23 14.4	1.119	2.104	1.4	17.9	12 7	4 42.65	+46 8.4	2.539	3.464	6.6	20.4		
12 17	4 32.40	+23 14.8	1.132	2.097	7.1	18.3	12 17	4 31.67	+45 55.6	2.554	3.463	7.3	20.5		
12 27	4 24.04	+23 14.6	1.169	2.091	12.5	18.6	12 27	4 22.06	+45 25.7	2.596	3.462	8.9	20.6		
1 6	4 18.87	+23 17.2	1.227	2.086	17.2	18.8	1 6	4 14.72	+44 43.7	2.663	3.461	10.9	20.7		
304933	2007 <i>RK</i> ₃₂₄	12	4.7	96°95'	9°6'	30.3	18	63974	2001 <i>SB</i> ₇₇	12	4.7	322°05'	3°5'	5.6	18
10 28	5 12.89	+ 1 31.6	1.863	2.645	15.9	20.9	10 28	5 13.45	+30 24.1	1.364	2.177	19.0	19.1		
11 7	5 8.09	- 0 35.8	1.804	2.655	13.3	20.8	11 7	5 10.42	+30 37.1	1.277	2.163	15.3	18.9		
11 17	5 1.01	- 2 34.0	1.769	2.665	11.0	20.7	11 17	5 3.66	+30 38.6	1.209	2.149	10.9	18.6		
11 27	4 52.35	- 4 14.6	1.759	2.675	9.7	20.6	11 27	4 53.91	+30 25.2	1.164	2.136	6.1	18.3		
12 7	4 43.10	- 5 30.6	1.776	2.685	10.0	20.6	12 7	4 42.62	+29 55.1	1.143	2.124	3.6	18.1		
12 17	4 34.28	- 6 17.9	1.819	2.695	11.7	20.8	12 17	4 31.61	+29 10.6	1.149	2.112	7.5	18.3		
12 27	4 26.89	- 6 36.0	1.886	2.704	13.9	20.9	12 27	4 22.73	+28 18.2	1.179	2.100	12.5	18.5		
1 6	4 21.59	- 6 27.9	1.974	2.714	16.1	21.1	1 6	4 17.23	+27 25.8	1.230	2.090	17.1	18.8		
123414	2000 <i>WM</i> ₉₉	12	4.7	323°02'	0°4'	4.8									

EPHEMERIDES

12 4.7

12 4.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
515813	2015 <i>MJ</i> ₅₄	12	4.7	218°80	7°9/30.7	18	78506	2002 <i>RU</i> ₈₄	12	4.7	125°10	1°1/ 5.0	18
10 28	5 15.84	+ 6 13.8	1.984	2.766	15.0	21.3	10 28	5 19.83	+25 35.2	1.744	2.535	16.4	20.3
11 7	5 10.49	+ 4 17.4	1.898	2.757	12.4	21.1	11 7	5 13.99	+25 37.4	1.674	2.550	12.9	20.1
11 17	5 2.73	+ 2 23.0	1.836	2.747	9.8	21.0	11 17	5 5.21	+25 33.3	1.624	2.564	8.7	19.9
11 27	4 53.20	+ 0 38.2	1.801	2.737	8.0	20.8	11 27	4 54.32	+25 21.6	1.601	2.577	4.1	19.6
12 7	4 42.86	- 0 49.7	1.795	2.726	8.3	20.8	12 7	4 42.59	+25 2.4	1.606	2.590	1.4	19.5
12 17	4 32.77	- 1 55.0	1.817	2.714	10.4	20.9	12 17	4 31.42	+24 37.9	1.641	2.602	5.8	19.8
12 27	4 24.00	- 2 34.8	1.865	2.702	13.2	21.1	12 27	4 22.10	+24 11.9	1.703	2.614	10.1	20.1
1 6	4 17.34	- 2 49.7	1.935	2.688	15.9	21.2	1 6	4 15.50	+23 48.6	1.790	2.625	13.8	20.3
290119	2005 <i>QV</i> ₁₃₂	12	4.7	107°16	1°0/ 5.0	18	471053	2009 <i>UP</i> ₁₀₆	12	4.7	36°69	1°2/ 4.8	16
10 28	5 14.58	+25 9.2	2.091	2.880	14.1	21.5	10 28	5 17.64	+21 39.1	1.115	1.946	21.3	20.5
11 7	5 9.56	+25 20.2	2.013	2.889	11.0	21.3	11 7	5 13.60	+22 31.3	1.064	1.963	16.6	20.3
11 17	5 2.11	+25 26.6	1.958	2.897	7.4	21.1	11 17	5 5.59	+23 23.3	1.032	1.981	11.1	20.0
11 27	4 52.91	+25 27.3	1.929	2.905	3.5	20.9	11 27	4 54.63	+24 11.3	1.022	2.001	5.1	19.8
12 7	4 42.96	+25 22.2	1.929	2.913	1.3	20.7	12 7	4 42.50	+24 51.7	1.037	2.021	1.8	19.6
12 17	4 33.35	+25 12.2	1.959	2.920	5.0	21.0	12 17	4 31.17	+25 23.3	1.077	2.042	7.4	20.0
12 27	4 25.16	+24 59.9	2.018	2.928	8.8	21.3	12 27	4 22.43	+25 48.1	1.141	2.064	12.7	20.4
1 6	4 19.15	+24 48.3	2.101	2.935	12.0	21.5	1 6	4 17.34	+26 9.5	1.227	2.086	17.2	20.7
318884	2005 <i>TA</i> ₁₂₆	12	4.7	5°98	1°1/ 4.4	18	520474	2014 <i>KD</i> ₁₁₀	12	4.7	113°44	5°3/ 2.8	18
10 28	5 11.75	+20 24.9	1.910	2.714	14.7	21.3	10 28	5 12.49	+ 9 14.0	2.128	2.918	13.9	22.0
11 7	5 7.55	+20 10.1	1.829	2.714	11.5	21.1	11 7	5 7.56	+ 8 12.8	2.061	2.931	11.1	21.8
11 17	5 0.87	+19 52.9	1.770	2.714	7.7	20.9	11 17	5 0.57	+ 7 15.9	2.017	2.943	8.1	21.6
11 27	4 52.39	+19 34.1	1.737	2.715	3.5	20.6	11 27	4 52.17	+ 6 27.4	2.000	2.956	5.8	21.5
12 7	4 43.11	+19 15.0	1.732	2.715	1.6	20.5	12 7	4 43.24	+ 5 51.0	2.012	2.968	5.6	21.5
12 17	4 34.15	+18 57.8	1.756	2.716	5.6	20.7	12 17	4 34.70	+ 5 29.0	2.052	2.980	7.6	21.7
12 27	4 26.59	+18 44.8	1.808	2.718	9.7	21.0	12 27	4 27.42	+ 5 22.7	2.120	2.991	10.4	21.9
1 6	4 21.23	+18 38.1	1.884	2.719	13.2	21.2	1 6	4 22.03	+ 5 31.1	2.211	3.003	13.0	22.1
490945	2011 <i>CQ</i> ₉₅	12	4.7	2°23	5°6/ 3.1	17	83068	2001 <i>QD</i> ₂₁₃	12	4.7	271°65	2°4/ 5.4	18
10 28	5 9.11	+ 8 25.4	1.953	2.754	14.6	21.8	10 28	5 14.51	+29 6.5	1.973	2.761	14.9	19.6
11 7	5 5.29	+ 7 41.7	1.878	2.753	11.7	21.6	11 7	5 9.93	+29 18.9	1.882	2.755	11.8	19.4
11 17	4 59.27	+ 7 3.8	1.824	2.753	8.7	21.4	11 17	5 2.62	+29 23.7	1.814	2.749	8.3	19.2
11 27	4 51.65	+ 6 35.7	1.796	2.754	6.2	21.3	11 27	4 53.25	+29 18.8	1.771	2.743	4.4	18.9
12 7	4 43.33	+ 6 20.7	1.796	2.754	5.8	21.2	12 7	4 42.90	+29 3.3	1.756	2.736	2.5	18.8
12 17	4 35.30	+ 6 20.6	1.822	2.755	8.0	21.4	12 17	4 32.81	+28 38.6	1.770	2.730	5.6	19.0
12 27	4 28.52	+ 6 36.1	1.875	2.757	11.0	21.6	12 27	4 24.22	+28 8.2	1.812	2.724	9.5	19.2
1 6	4 23.70	+ 7 5.6	1.951	2.759	13.9	21.7	1 6	4 18.03	+27 36.7	1.879	2.718	13.0	19.4
452023	2014 <i>OG</i> ₁₂₅	12	4.7	279°36	1°2/ 5.0	18	365275	2009 <i>QE</i> ₃₇	12	4.8	48°29	1°9/ 4.7	18
10 28	5 13.90	+25 15.3	1.985	2.779	14.6	21.6	10 28	5 19.16	+12 51.8	1.916	2.702	15.3	19.5
11 7	5 9.32	+25 29.2	1.897	2.775	11.5	21.4	11 7	5 13.10	+13 49.0	1.848	2.721	12.0	19.3
11 17	5 2.14	+25 38.7	1.831	2.772	7.8	21.2	11 17	5 4.48	+14 53.6	1.803	2.740	8.1	19.1
11 27	4 53.00	+25 42.4	1.792	2.768	3.7	20.9	11 27	4 54.00	+16 4.1	1.785	2.760	4.0	18.9
12 7	4 42.92	+25 39.7	1.780	2.764	1.5	20.8	12 7	4 42.71	+17 17.7	1.798	2.780	2.1	18.8
12 17	4 33.08	+25 31.6	1.798	2.760	5.4	21.0	12 17	4 31.81	+18 31.9	1.842	2.800	5.7	19.1
12 27	4 24.66	+25 20.4	1.844	2.756	9.4	21.3	12 27	4 22.42	+19 44.6	1.916	2.820	9.5	19.4
1 6	4 18.53	+25 9.5	1.915	2.752	12.9	21.5	1 6	4 15.36	+20 54.9	2.016	2.841	12.8	19.6
482086	2010 <i>HG</i> ₈	12	4.7	268°07	1°0/ 5.0	18	158150	2001 <i>GV</i> ₈	12	4.8	125°94	1°6/ 5.2	18
10 28	5 15.70	+26 7.9	1.766	2.564	16.0	21.6	10 28	5 15.03	+26 43.4	2.794	3.563	11.4	20.3
11 7	5 11.20	+26 0.8	1.667	2.547	12.7	21.4	11 7	5 9.34	+27 15.8	2.713	3.577	9.0	20.1
11 17	5 3.68	+25 46.3	1.588	2.529	8.7	21.1	11 17	5 1.71	+27 44.3	2.658	3.590	6.1	20.0
11 27	4 53.80	+25 23.2	1.535	2.512	4.1	20.8	11 27	4 52.71	+28 7.2	2.631	3.603	3.2	19.8
12 7	4 42.68	+24 51.6	1.510	2.494	1.4	20.6	12 7	4 43.09	+28 23.6	2.634	3.615	1.7	19.7
12 17	4 31.72	+24 14.0	1.513	2.476	6.1	20.8	12 17	4 33.71	+28 33.4	2.670	3.627	4.2	19.9
12 27	4 22.36	+23 34.7	1.544	2.457	10.7	21.1	12 27	4 25.39	+28 38.0	2.735	3.639	7.0	20.1
1 6	4 15.64	+22 58.8	1.599	2.439	14.9	21.3	1 6	4 18.79	+28 39.5	2.828	3.650	9.6	20.3
18049	1999 <i>RX</i> ₁₉₅	12	4.7	303°52	4°0/ 3.1	18	244733	2003 <i>RT</i> ₁₇	12	4.8	116°68	7°5/ 1.5	18
10 28	5 12.36	+17 27.4	1.643	2.455	16.4	16.8	10 28	5 10.06	- 0 59.2	2.576	3.335	12.5	20.7
11 7	5 8.38	+16 8.4	1.557	2.446	12.9	16.6	11 7	5 5.32	- 2 14.5	2.515	3.349	10.6	20.6
11 17	5 1.61	+14 44.1	1.493	2.437	8.9	16.3	11 17	4 58.93	- 3 20.0	2.478	3.363	8.8	20.5
11 27	4 52.78	+13 19.1	1.455	2.428	5.0	16.1	11 27	4 51.42	- 4 11.2	2.467	3.376	7.7	20.5
12 7	4 43.00	+11 59.2	1.444	2.419	4.5	16.0	12 7	4 43.49	- 4 44.6	2.484	3.389	7.7	20.5
12 17	4 33.57	+10 50.8	1.462	2.410	8.0	16.2	12 17	4 35.85	- 4 58.3	2.529	3.402	8.9	20.6
12 27	4 25.72	+ 9 58.8	1.505	2.402	12.2	16.4	12 27	4 29.22	- 4 52.6	2.599	3.414	10.6	20.7
1 6	4 20.36	+ 9 25.6	1.571	2.393	16.0	16.6	1 6	4 24.11	- 4 29.4	2.692	3.426	12.4	20.9
262293	2006 <i>SU</i> ₃₉₃	12	4.7	141°85	2°5/ 3.9	18	195830	2002 <i>QX</i> ₅₆	12	4.8	142°86	0°0/ 4.6	17
10 28	5 12.29	+16 59.4	1.981	2.782	14.4	21.5	10 28	5 11.75	+22 46.4	2.711	3.494	11.4	21.6
11 7	5 7.79	+16 27.6	1.901	2.783	11.2	21.3	11 7	5 6.78	+22 43.8	2.628	3.501	8.9	21.4
11 17	5 0.94	+15 55.1	1.843	2.785	7.6	21.1	11 17	4 59.99	+22 38.2	2.569	3.508	5.9	21.2
11 27	4 52.40	+15 23.9	1.811	2.786	3.9	20.9	11 27	4 51.93	+22 29.7	2.538	3.515	2.6	21.0
12 7	4 43.12	+14 56.6	1.808	2.787	2.9	20.8	12 7	4 43.33	+22 18.8	2.537	3.522	0.8	20.9
12 17	4 34.17	+14 35.5	1.834	2.788	6.1	21.0	12 17	4 34.97	+22 6.5	2.568	3.528	4.1	21.2
12 27	4 26.56	+14 22.8	1.888	2.789	9.8	21.2	12 27	4 27.65	+21 54.6	2.628	3.534	7.2	21.4
1 6	4 21.04	+14 19.7	1.966	2.790	13.2	21.5	1 6	4 21.94	+21 45.0	2.714	3.539	9.9	21.6
414023	2007 <i>LA</i> ₄	12	4.7	138°45	1°3/ 4.3	18	398695	2012 <i>WS</i> ₃₄	12	4.8	309°2		

EPHEMERIDES

12 4.8

12 4.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
228934	2003 <i>SP</i> ₃₃₀	12	4.8	149°81	0°5/ 4.9	17	125157	2001 <i>UP</i> ₉₀	12	4.8	215°15	1°0/ 4.5	18
10 28	5 12.59	+23 54.0	2.620	3.402	11.8	21.9	10 28	5 16.14	+20 29.7	1.911	2.706	15.1	21.2
11 7	5 7.54	+23 59.3	2.535	3.407	9.2	21.7	11 7	5 11.08	+20 19.7	1.820	2.700	11.8	21.0
11 17	5 0.56	+24 1.4	2.475	3.413	6.1	21.5	11 17	5 3.34	+20 7.4	1.752	2.694	7.9	20.7
11 27	4 52.21	+23 59.6	2.442	3.418	2.8	21.3	11 27	4 53.59	+19 52.9	1.710	2.687	3.6	20.5
12 7	4 43.26	+23 54.1	2.439	3.423	0.9	21.1	12 7	4 42.87	+19 37.4	1.697	2.680	1.5	20.3
12 17	4 34.55	+23 45.9	2.467	3.428	4.2	21.4	12 17	4 32.39	+19 22.5	1.713	2.672	5.8	20.6
12 27	4 26.91	+23 36.7	2.525	3.432	7.4	21.6	12 27	4 23.36	+19 10.9	1.757	2.664	10.1	20.8
1 6	4 20.99	+23 28.5	2.609	3.436	10.2	21.8	1 6	4 16.67	+19 5.0	1.826	2.656	13.8	21.0
25023	Sundaresh	12	4.8	122°23	1°7/ 5.2	18	407581	2011 <i>AW</i> ₃₉	12	4.8	342°79	0°8/ 4.9	17
10 28	5 20.46	+26 38.0	1.776	2.564	16.3	19.8	10 28	5 12.09	+24 17.4	1.985	2.784	14.5	21.3
11 7	5 14.50	+26 52.8	1.706	2.579	12.8	19.6	11 7	5 7.90	+24 29.1	1.899	2.780	11.3	21.1
11 17	5 5.57	+27 1.2	1.657	2.595	8.7	19.4	11 17	5 1.20	+24 37.0	1.835	2.777	7.6	20.9
11 27	4 54.51	+27 1.1	1.635	2.609	4.3	19.1	11 27	4 52.63	+24 40.2	1.797	2.774	3.6	20.6
12 7	4 42.60	+26 51.7	1.641	2.623	1.9	19.0	12 7	4 43.15	+24 38.3	1.787	2.771	1.2	20.4
12 17	4 31.23	+26 34.7	1.676	2.637	5.8	19.3	12 17	4 33.92	+24 32.2	1.806	2.769	5.3	20.7
12 27	4 21.71	+26 13.6	1.739	2.650	9.9	19.6	12 27	4 26.07	+24 24.4	1.853	2.767	9.2	21.0
1 6	4 14.92	+25 52.9	1.827	2.662	13.5	19.8	1 6	4 20.43	+24 17.5	1.925	2.765	12.7	21.2
490054	2008 <i>TH</i> ₈₀	12	4.8	192°83	4°3/ 2.9	17	331695	2002 <i>QQ</i> ₁₄₂	12	4.8	48°80	1°3/ 5.3	17
10 28	5 9.30	+ 9 33.6	2.675	3.458	11.5	22.4	10 28	5 11.88	+27 53.4	2.230	3.017	13.4	20.8
11 7	5 4.83	+ 8 47.3	2.590	3.457	9.2	22.3	11 7	5 7.35	+27 39.2	2.149	3.023	10.5	20.6
11 17	4 58.69	+ 8 4.3	2.530	3.456	6.7	22.1	11 17	5 0.59	+27 17.5	2.091	3.028	7.2	20.4
11 27	4 51.36	+ 7 27.3	2.497	3.454	4.7	22.0	11 27	4 52.26	+26 47.8	2.059	3.034	3.5	20.2
12 7	4 43.51	+ 6 59.1	2.494	3.452	4.5	22.0	12 7	4 43.29	+26 11.2	2.057	3.040	1.5	20.1
12 17	4 35.87	+ 6 41.5	2.520	3.450	6.3	22.1	12 17	4 34.69	+25 30.0	2.085	3.046	4.7	20.3
12 27	4 29.15	+ 6 35.6	2.575	3.448	8.7	22.2	12 27	4 27.41	+24 47.8	2.141	3.053	8.3	20.6
1 6	4 23.91	+ 6 41.4	2.655	3.445	11.1	22.4	1 6	4 22.14	+24 8.3	2.223	3.059	11.4	20.8
196102	2002 <i>TA</i> ₁₃₃	12	4.8	19°87	5°1/ 3.2	17	368345	2002 <i>QP</i> ₈₈	12	4.8	163°29	7°0/ 2.4	17
10 28	5 8.71	+ 9 24.7	2.027	2.828	14.1	19.8	10 28	5 9.54	- 1 35.6	2.713	3.469	12.1	22.0
11 7	5 4.88	+ 8 40.2	1.956	2.832	11.3	19.6	11 7	5 4.95	- 2 21.1	2.640	3.472	10.2	21.9
11 17	4 58.94	+ 8 0.7	1.906	2.837	8.2	19.4	11 17	4 58.73	- 2 56.5	2.589	3.475	8.4	21.8
11 27	4 51.52	+ 7 29.8	1.883	2.842	5.7	19.3	11 27	4 51.38	- 3 18.1	2.565	3.477	7.2	21.7
12 7	4 43.48	+ 7 10.7	1.887	2.848	5.4	19.3	12 7	4 43.55	- 3 23.4	2.568	3.480	7.2	21.7
12 17	4 35.74	+ 7 5.3	1.919	2.854	7.5	19.4	12 17	4 35.94	- 3 11.2	2.599	3.482	8.3	21.8
12 27	4 29.23	+ 7 14.2	1.978	2.861	10.4	19.6	12 27	4 29.24	- 2 42.0	2.656	3.483	10.0	21.9
1 6	4 24.60	+ 7 36.5	2.060	2.868	13.2	19.8	1 6	4 23.98	- 1 57.9	2.738	3.485	11.9	22.0
212187	2005 <i>GT</i> ₉₄	12	4.8	275°10	1°0/ 4.9	18	39944	1998 <i>FO</i> ₁₁₀	12	4.8	198°37	2°6/ 3.7	18
10 28	5 14.70	+24 27.3	1.865	2.663	15.3	21.2	10 28	5 14.72	+18 25.0	2.068	2.861	14.1	19.3
11 7	5 10.22	+24 41.6	1.771	2.651	12.1	21.0	11 7	5 9.59	+17 28.3	1.980	2.858	11.1	19.1
11 17	5 2.94	+24 52.1	1.698	2.640	8.2	20.7	11 17	5 2.12	+16 28.0	1.915	2.855	7.5	18.8
11 27	4 53.47	+24 57.4	1.651	2.628	3.9	20.4	11 27	4 52.97	+15 26.5	1.878	2.852	3.9	18.6
12 7	4 42.88	+24 56.7	1.633	2.617	1.4	20.2	12 7	4 43.09	+14 27.6	1.870	2.848	3.0	18.5
12 17	4 32.44	+24 50.7	1.643	2.605	5.7	20.5	12 17	4 33.53	+13 35.1	1.893	2.844	6.3	18.7
12 27	4 23.47	+24 42.0	1.680	2.593	10.0	20.7	12 27	4 25.32	+12 52.7	1.944	2.839	9.9	19.0
1 6	4 16.95	+24 34.0	1.742	2.582	13.9	21.0	1 6	4 19.21	+12 22.5	2.020	2.834	13.2	19.2
514925	2008 <i>UJ</i> ₁₃₅	12	4.8	164°65	4°7/ 5.5	18	314682	2006 <i>QQ</i> ₁₄₂	12	4.8	31°09	9°3/ 1.6	18
10 28	5 21.34	+32 7.3	1.919	2.690	15.8	21.4	10 28	5 10.64	+ 7 48.2	1.296	2.121	19.2	19.4
11 7	5 15.55	+33 12.1	1.836	2.694	12.8	21.2	11 7	5 7.09	+ 5 38.8	1.255	2.141	15.6	19.2
11 17	5 6.58	+34 10.0	1.774	2.696	9.4	21.0	11 17	5 0.64	+ 3 37.8	1.235	2.163	12.0	19.1
11 27	4 55.12	+34 55.5	1.739	2.699	6.1	20.8	11 27	4 52.28	+ 1 55.4	1.238	2.186	9.6	19.0
12 7	4 42.40	+35 24.6	1.732	2.701	4.7	20.8	12 7	4 43.34	+ 0 40.0	1.266	2.210	9.7	19.1
12 17	4 29.91	+35 35.9	1.754	2.703	6.9	20.9	12 17	4 35.16	- 0 4.0	1.318	2.235	12.0	19.3
12 27	4 19.15	+35 32.3	1.805	2.704	10.3	21.1	12 27	4 28.89	- 0 16.6	1.393	2.260	15.0	19.5
1 6	4 11.20	+35 19.2	1.879	2.705	13.6	21.3	1 6	4 25.24	- 0 1.9	1.487	2.286	17.9	19.8
90989	1997 <i>YP</i>	12	4.8	355°13	1°3/ 4.5	18	240403	2003 <i>UK</i> ₁₈₂	12	4.8	77°76	0°6/ 4.6	15
10 28	5 10.17	+19 56.4	1.202	2.040	19.6	18.9	10 28	5 16.56	+21 20.0	1.717	2.518	16.3	21.4
11 7	5 7.76	+19 52.4	1.131	2.034	15.4	18.7	11 7	5 11.34	+21 15.4	1.655	2.538	12.6	21.2
11 17	5 1.79	+19 47.1	1.078	2.030	10.4	18.4	11 17	5 3.38	+21 8.0	1.614	2.558	8.3	21.0
11 27	4 53.06	+19 41.2	1.048	2.027	4.7	18.0	11 27	4 53.52	+20 58.1	1.600	2.578	3.7	20.7
12 7	4 43.01	+19 35.9	1.041	2.025	2.0	17.9	12 7	4 42.96	+20 46.4	1.613	2.597	1.3	20.6
12 17	4 33.35	+19 33.2	1.060	2.025	7.6	18.2	12 17	4 32.98	+20 34.7	1.656	2.617	5.8	20.9
12 27	4 25.80	+19 35.8	1.102	2.025	13.0	18.5	12 27	4 24.75	+20 25.6	1.725	2.636	10.0	21.2
1 6	4 21.46	+19 45.8	1.165	2.027	17.7	18.8	1 6	4 19.04	+20 21.4	1.820	2.656	13.5	21.5
484153	2006 <i>UO</i> ₂	12	4.8	52°54	0°5/ 4.9	18	353335	2010 <i>PD</i> ₁₂	12	4.8	203°54	5°1/ 6.4	18
10 28	5 13.66	+24 55.8	1.814	2.614	15.5	21.2	10 28	5 19.37	+36 58.8	2.155	2.911	14.8	20.9
11 7	5 9.19	+24 44.6	1.738	2.620	12.1	21.0	11 7	5 13.73	+37 27.6	2.063	2.907	12.2	20.7
11 17	5 2.03	+24 27.4	1.684	2.626	8.1	20.8	11 17	5 5.19	+37 44.6	1.993	2.903	9.2	20.5
11 27	4 52.96	+24 3.8	1.655	2.633	3.7	20.5	11 27	4 54.45	+37 45.6	1.948	2.898	6.4	20.3
12 7	4 43.07	+23 34.9	1.655	2.639	1.1	20.4	12 7	4 42.66	+37 28.2	1.931	2.893	5.1	20.3
12 17	4 33.62	+23 3.2	1.683	2.646	5.5	20.7	12 17	4 31.19	+36 53.3	1.943	2.888	6.7	20.3
12 27	4 25.77	+22 32.5	1.739	2.652	9.7	21.0	12 27	4 21.36	+36 5.0	1.984	2.882	9.6	20.5
1 6	4 20.34	+22 6.3	1.819	2.659	13.3	21.2	1 6	4 14.11	+35 10.0	2.049	2.875	12.6	20.7
191168	2002 <i>LX</i> ₂₉	12	4.8	116°17	2°4/ 4.								

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
293000	2006 WY ₁₇	12 4.8 45°32'	1°0' / 5.1 18				445182	2009 BY ₁₁₂	12 4.8 289°42'	5°4' / 5.9 17			
10 28	5 13.77	+25 47.4	1.746	2.548	16.0	20.7	10 28	5 17.25	+34 47.3	1.840	2.616	16.2	21.3
11 7	5 9.39	+25 42.7	1.674	2.556	12.5	20.5	11 7	5 12.64	+35 35.3	1.751	2.609	13.3	21.1
11 17	5 2.22	+25 31.4	1.623	2.565	8.4	20.3	11 17	5 4.81	+36 13.5	1.682	2.602	10.0	20.9
11 27	4 53.07	+25 12.8	1.597	2.574	3.9	20.0	11 27	4 54.42	+36 36.6	1.638	2.595	6.8	20.7
12 7	4 43.09	+24 47.6	1.599	2.583	1.3	19.9	12 7	4 42.73	+36 41.1	1.621	2.587	5.4	20.6
12 17	4 33.58	+24 18.3	1.629	2.592	5.6	20.2	12 17	4 31.26	+36 26.7	1.632	2.580	7.4	20.7
12 27	4 25.76	+23 48.6	1.687	2.602	9.9	20.5	12 27	4 21.54	+35 57.2	1.670	2.573	10.7	20.8
1 6	4 20.45	+23 22.5	1.769	2.612	13.5	20.7	1 6	4 14.68	+35 19.1	1.731	2.566	14.1	21.0
456331	2006 SU ₃₅₀	12 4.8 69°30'	5°8' / 6.2 18				108725	2001 OV ₂₅	12 4.8 118°46'	4°2' / 3.4 18			
10 28	5 20.15	+35 48.1	1.803	2.573	16.7	21.2	10 28	5 14.05	+10 16.5	2.430	3.209	12.7	21.0
11 7	5 14.64	+36 46.3	1.739	2.592	13.7	21.1	11 7	5 8.48	+9 35.2	2.365	3.231	10.0	20.9
11 17	5 5.89	+37 32.7	1.696	2.610	10.2	20.9	11 17	5 1.07	+8 57.7	2.325	3.252	7.2	20.7
11 27	4 54.75	+38 1.9	1.677	2.629	7.1	20.7	11 27	4 52.44	+8 26.8	2.312	3.272	4.8	20.6
12 7	4 42.61	+38 10.5	1.686	2.647	5.8	20.7	12 7	4 43.37	+8 4.9	2.329	3.291	4.4	20.6
12 17	4 31.02	+37 59.0	1.722	2.666	7.5	20.8	12 17	4 34.68	+7 53.5	2.376	3.310	6.4	20.8
12 27	4 21.44	+37 32.0	1.786	2.685	10.5	21.1	12 27	4 27.16	+7 53.5	2.452	3.328	9.0	21.0
1 6	4 14.83	+36 56.3	1.873	2.703	13.5	21.3	1 6	4 21.36	+8 4.4	2.553	3.345	11.4	21.2
473679	2015 XY ₃₆₉	12 4.8 7°14'	1°9' / 5.4 17				210975	2001 VE ₆₁	12 4.8 85°78'	3°7' / 5.9 18			
10 28	5 9.46	+28 15.0	1.428	2.248	18.0	20.8	10 28	5 18.41	+32 43.0	2.051	2.823	15.0	20.3
11 7	5 6.73	+28 5.1	1.358	2.250	14.2	20.5	11 7	5 12.66	+33 10.8	1.986	2.845	11.9	20.2
11 17	5 0.79	+27 44.4	1.307	2.252	9.7	20.3	11 17	5 4.24	+33 28.9	1.942	2.866	8.6	20.0
11 27	4 52.52	+27 12.4	1.280	2.257	4.8	20.0	11 27	4 53.95	+33 34.1	1.925	2.888	5.3	19.9
12 7	4 43.25	+26 30.1	1.279	2.262	2.1	19.8	12 7	4 42.93	+33 25.3	1.936	2.909	3.8	19.8
12 17	4 34.51	+25 41.5	1.304	2.269	6.4	20.1	12 17	4 32.45	+33 3.7	1.977	2.930	5.8	20.0
12 27	4 27.72	+24 52.4	1.354	2.277	11.1	20.4	12 27	4 23.67	+32 33.3	2.045	2.950	9.0	20.2
1 6	4 23.79	+24 8.2	1.427	2.287	15.2	20.7	1 6	4 17.35	+31 59.1	2.139	2.971	12.0	20.4
49469	Emilianomazzoni	12 4.8 100°95'	2°5' / 4.0 18				72531	2001 DV ₉₈	12 4.8 212°01'	0°1' / 4.8 18			
10 28	5 10.70	+14 19.8	2.472	3.262	12.2	19.3	10 28	5 11.87	+24 0.7	2.891	3.669	10.9	19.4
11 7	5 6.06	+14 6.5	2.394	3.270	9.5	19.1	11 7	5 6.89	+23 45.6	2.791	3.662	8.5	19.2
11 17	4 59.58	+13 55.3	2.341	3.278	6.5	18.9	11 17	5 0.13	+23 26.3	2.716	3.654	5.7	19.0
11 27	4 51.80	+13 47.5	2.315	3.286	3.6	18.7	11 27	4 52.09	+23 3.0	2.670	3.646	2.6	18.8
12 7	4 43.47	+13 44.4	2.318	3.294	2.8	18.7	12 7	4 43.48	+22 36.3	2.654	3.638	0.7	18.6
12 17	4 35.40	+13 47.0	2.352	3.302	5.2	18.9	12 17	4 35.03	+22 8.0	2.669	3.629	4.0	18.9
12 27	4 28.39	+13 56.1	2.414	3.310	8.2	19.1	12 27	4 27.53	+21 40.1	2.715	3.620	7.0	19.1
1 6	4 23.03	+14 11.8	2.502	3.318	10.9	19.3	1 6	4 21.57	+21 15.1	2.788	3.610	9.7	19.3
78562	2002 RB ₁₆₀	12 4.8 349°18'	0°4' / 4.9 17				318187	2004 RQ ₉₉	12 4.8 46°67'	5°1' / 6.5 17			
10 28	5 10.01	+23 19.5	1.864	2.671	14.9	19.4	10 28	5 15.84	+36 15.9	1.924	2.696	15.8	20.1
11 7	5 6.46	+23 24.6	1.778	2.665	11.7	19.2	11 7	5 11.09	+36 43.1	1.852	2.707	12.9	20.0
11 17	5 0.33	+23 26.1	1.715	2.659	7.8	19.0	11 17	5 3.43	+36 57.7	1.801	2.718	9.6	19.8
11 27	4 52.28	+23 23.6	1.676	2.654	3.6	18.7	11 27	4 53.67	+36 55.8	1.774	2.729	6.5	19.6
12 7	4 43.31	+23 17.3	1.666	2.650	1.0	18.5	12 7	4 43.03	+36 35.9	1.775	2.740	5.1	19.6
12 17	4 34.58	+23 8.4	1.684	2.647	5.5	18.8	12 17	4 32.90	+35 59.6	1.803	2.752	6.7	19.7
12 27	4 27.26	+22 59.5	1.728	2.644	9.6	19.0	12 27	4 24.56	+35 11.7	1.859	2.764	9.7	19.9
1 6	4 22.21	+22 53.0	1.797	2.642	13.3	19.3	1 6	4 18.86	+34 18.7	1.939	2.776	12.8	20.1
14507	1996 CQ ₁	12 4.8 57°14'	4°4' / 6.0 18				246834	2009 WJ ₁₀	12 4.8 30°68'	3°0' / 4.6 18			
10 28	5 18.70	+32 42.4	1.388	2.188	19.5	18.2	10 28	5 14.64	+11 51.4	1.702	2.505	16.3	19.3
11 7	5 14.09	+33 0.7	1.325	2.201	15.6	18.0	11 7	5 9.89	+12 23.1	1.639	2.521	12.8	19.1
11 17	5 5.76	+33 5.5	1.282	2.215	11.1	17.8	11 17	5 2.51	+13 2.6	1.598	2.537	8.8	18.9
11 27	4 54.73	+32 52.7	1.261	2.229	6.6	17.5	11 27	4 53.23	+13 50.1	1.582	2.555	4.7	18.7
12 7	4 42.65	+32 21.0	1.266	2.243	4.4	17.5	12 7	4 43.16	+14 44.3	1.594	2.573	3.2	18.7
12 17	4 31.35	+31 33.8	1.298	2.257	7.4	17.7	12 17	4 33.52	+15 43.4	1.635	2.591	6.5	18.9
12 27	4 22.46	+30 38.2	1.355	2.272	11.7	18.0	12 27	4 25.47	+16 45.8	1.703	2.610	10.3	19.2
1 6	4 16.97	+29 42.2	1.435	2.286	15.6	18.2	1 6	4 19.82	+17 49.9	1.796	2.630	13.8	19.5
91895	1999 VV ₅	12 4.8 11°37'	0°0' / 4.6 18				287005	2002 QJ ₆₉	12 4.8 165°00'	1°5' / 4.2 17			
10 28	5 13.36	+20 40.1	1.926	2.726	14.8	18.4	10 28	5 10.92	+17 42.1	2.761	3.545	11.2	21.8
11 7	5 8.91	+21 8.5	1.845	2.728	11.5	18.2	11 7	5 6.11	+17 28.2	2.675	3.549	8.7	21.7
11 17	5 1.91	+21 37.1	1.786	2.729	7.7	18.0	11 17	4 59.58	+17 14.0	2.613	3.552	5.8	21.5
11 27	4 52.99	+22 4.7	1.754	2.732	3.5	17.7	11 27	4 51.84	+17 0.4	2.580	3.555	2.8	21.3
12 7	4 43.15	+22 30.3	1.750	2.734	1.0	17.6	12 7	4 43.56	+16 48.4	2.577	3.558	1.8	21.2
12 17	4 33.55	+22 53.4	1.775	2.737	5.4	17.9	12 17	4 35.50	+16 39.2	2.605	3.560	4.5	21.4
12 27	4 25.36	+23 15.0	1.828	2.740	9.4	18.1	12 27	4 28.39	+16 34.2	2.662	3.562	7.4	21.6
1 6	4 19.41	+23 36.5	1.905	2.743	12.9	18.4	1 6	4 22.80	+16 34.4	2.747	3.563	10.0	21.8
470000	2006 KC ₁₀₂	12 4.8 129°73'	4°5' / 3.7 16				75339	1999 XN ₆₀	12 4.8 213°30'	0°7' / 4.6 18			
10 28	5 18.77	+12 43.1	1.669	2.465	16.8	22.6	10 28	5 15.27	+20 5.1	2.132	2.922	13.9	19.6
11 7	5 13.04	+12 4.9	1.603	2.480	13.3	22.4	11 7	5 10.17	+20 8.1	2.040	2.917	10.9	19.4
11 17	5 4.53	+11 30.2	1.558	2.494	9.3	22.2	11 17	5 2.65	+20 10.2	1.970	2.911	7.3	19.1
11 27	4 54.08	+11 2.1	1.540	2.508	5.6	22.0	11 27	4 53.33	+20 11.1	1.928	2.905	3.3	18.9
12 7	4 42.88	+10 43.6	1.549	2.520	4.7	22.0	12 7	4 43.12	+20 11.1	1.915	2.899	1.3	18.7
12 17	4 32.21	+10 37.0	1.587	2.532	7.8	22.2	12 17	4 33.10	+20 11.1	1.932	2.892	5.3	19.0
12 27	4 23.29	+10 43.4	1.651	2.544	11.6	22.4	12 27	4 24.34	+20 12.8	1.978	2.884	9.1	19.2
1 6	4 16.92	+11 2.1	1.740	2.554	15.0	22.7	1 6	4 17.68	+20 17.9	2.049	2.877	12.6	19.4
227240	2005 SW ₃₂	12 4.8 337°45'	2°4' / 4.3 18				223448	2003 SQ ₃₄₁	12 4.8 51°81'	2°0' / 4.0 17			
10 28	5 10.50	+18 14.0	1.226	2.062	19								

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
217152	2002 <i>NX</i> ₅₉	12	4.8	140°20	0°3/ 4.9	18	34989	4251 <i>T</i> ₋₃	12	4.8	30°86	0°1/ 4.8	18
10 28	5 18.93	+25 2.1	1.696	2.491	16.7	20.9	10 28	5 13.27	+21 41.1	1.788	2.592	15.6	19.2
11 7	5 13.43	+24 41.0	1.621	2.500	13.0	20.7	11 7	5 8.98	+21 47.6	1.712	2.597	12.1	19.0
11 17	5 4.96	+24 12.5	1.567	2.509	8.7	20.5	11 17	5 2.01	+21 52.0	1.658	2.602	8.1	18.7
11 27	4 54.35	+23 36.4	1.539	2.517	4.0	20.2	11 27	4 53.08	+21 53.7	1.629	2.607	3.6	18.5
12 7	4 42.87	+22 54.5	1.540	2.524	1.1	20.0	12 7	4 43.27	+21 53.1	1.629	2.613	1.1	18.3
12 17	4 31.95	+22 10.0	1.569	2.531	6.0	20.4	12 17	4 33.82	+21 51.0	1.656	2.619	5.6	18.6
12 27	4 22.87	+21 27.9	1.626	2.538	10.4	20.6	12 27	4 25.92	+21 49.8	1.712	2.625	9.8	18.9
1 6	4 16.51	+20 52.4	1.708	2.543	14.3	20.9	1 6	4 20.41	+21 51.5	1.791	2.632	13.5	19.1
308615	2005 <i>WK</i> ₁₂₁	12	4.8	13°51	0°1/ 4.8	18	7074	<i>Muc</i> <i>kea</i>	12	4.8	53°96	0°7/ 4.9	18
10 28	5 15.35	+19 49.7	1.818	2.618	15.5	20.3	10 28	5 19.49	+22 54.3	1.141	1.966	21.3	17.5
11 7	5 10.66	+20 35.3	1.737	2.619	12.1	20.1	11 7	5 14.94	+23 16.3	1.090	1.986	16.6	17.3
11 17	5 3.20	+21 23.1	1.679	2.622	8.1	19.9	11 17	5 6.45	+23 34.8	1.058	2.006	11.1	17.0
11 27	4 53.65	+22 10.9	1.647	2.625	3.7	19.6	11 27	4 55.12	+23 47.4	1.048	2.027	5.0	16.8
12 7	4 43.05	+22 56.7	1.643	2.628	1.0	19.4	12 7	4 42.73	+23 53.2	1.063	2.048	1.5	16.6
12 17	4 32.67	+23 38.9	1.669	2.631	5.6	19.8	12 17	4 31.25	+23 53.4	1.104	2.069	7.3	17.0
12 27	4 23.79	+24 17.6	1.723	2.635	9.9	20.0	12 27	4 22.39	+23 51.8	1.169	2.091	12.6	17.4
1 6	4 17.34	+24 53.9	1.801	2.640	13.5	20.3	1 6	4 17.13	+23 52.3	1.256	2.112	17.1	17.7
298417	2003 <i>SK</i> ₃₂₅	12	4.8	46°21	0°8/ 5.1	16	48922	1998 <i>OQ</i> ₁₁	12	4.8	57°97	2°1/ 4.4	18
10 28	5 8.92	+25 58.2	2.752	3.536	11.2	21.3	10 28	5 18.39	+18 39.6	1.268	2.088	19.9	18.9
11 7	5 4.63	+25 52.4	2.675	3.548	8.7	21.2	11 7	5 13.42	+18 23.9	1.221	2.114	15.4	18.7
11 17	4 58.62	+25 42.0	2.622	3.560	5.9	21.0	11 17	5 5.06	+18 7.9	1.192	2.139	10.2	18.5
11 27	4 51.41	+25 26.7	2.597	3.573	2.8	20.8	11 27	4 54.39	+17 52.7	1.188	2.166	4.8	18.3
12 7	4 43.73	+25 7.2	2.602	3.586	1.0	20.7	12 7	4 42.96	+17 40.3	1.209	2.192	2.6	18.2
12 17	4 36.33	+24 44.9	2.637	3.599	3.9	20.9	12 17	4 32.43	+17 32.8	1.257	2.218	7.3	18.6
12 27	4 29.94	+24 21.8	2.702	3.612	6.8	21.2	12 27	4 24.21	+17 32.5	1.331	2.245	12.1	18.9
1 6	4 25.12	+24 0.3	2.793	3.625	9.4	21.4	1 6	4 19.11	+17 40.7	1.426	2.271	16.1	19.2
447610	2006 <i>UW</i> ₁₃₂	12	4.8	139°42	0°2/ 4.8	18	102237	1999 <i>TQ</i> ₂₁	12	4.8	344°41	1°8/ 5.1	17
10 28	5 14.07	+23 6.2	1.985	2.781	14.6	21.3	10 28	5 14.13	+25 32.2	2.000	2.793	14.6	19.5
11 7	5 9.39	+23 9.2	1.902	2.782	11.4	21.1	11 7	5 9.62	+26 10.3	1.913	2.790	11.5	19.2
11 17	5 2.18	+23 8.7	1.841	2.783	7.6	20.9	11 17	5 2.49	+26 45.5	1.848	2.787	7.9	19.0
11 27	4 53.13	+23 4.2	1.807	2.784	3.4	20.6	11 27	4 53.35	+27 15.3	1.810	2.784	4.0	18.8
12 7	4 43.23	+22 56.0	1.801	2.785	1.0	20.5	12 7	4 43.20	+27 37.9	1.800	2.782	2.0	18.6
12 17	4 33.63	+22 45.2	1.825	2.787	5.3	20.8	12 17	4 33.23	+27 52.9	1.820	2.780	5.4	18.9
12 27	4 25.44	+22 34.5	1.876	2.788	9.3	21.0	12 27	4 24.64	+28 1.7	1.867	2.779	9.3	19.1
1 6	4 19.48	+22 26.3	1.953	2.788	12.7	21.2	1 6	4 18.36	+28 7.2	1.940	2.778	12.7	19.3
213138	2000 <i>FY</i> ₆₂	12	4.8	150°28	2°0/ 3.9	18	79637	1998 <i>RT</i> ₇₇	12	4.8	124°88	3°1/ 4.0	18
10 28	5 13.65	+17 3.4	2.682	3.462	11.6	21.4	10 28	5 17.42	+15 33.7	1.749	2.547	16.1	19.8
11 7	5 8.16	+16 33.4	2.602	3.473	9.0	21.3	11 7	5 11.97	+15 6.7	1.680	2.560	12.6	19.6
11 17	5 0.90	+16 2.8	2.547	3.484	6.1	21.1	11 17	5 3.86	+14 40.9	1.633	2.573	8.6	19.4
11 27	4 52.42	+15 33.0	2.520	3.494	3.1	20.9	11 27	4 53.85	+14 18.5	1.612	2.585	4.6	19.2
12 7	4 43.46	+15 5.7	2.525	3.503	2.2	20.9	12 7	4 43.09	+14 1.7	1.619	2.596	3.4	19.1
12 17	4 34.79	+14 42.7	2.560	3.511	4.8	21.1	12 17	4 32.82	+13 52.4	1.655	2.608	6.8	19.4
12 27	4 27.17	+14 25.9	2.626	3.519	7.8	21.3	12 27	4 24.19	+13 52.5	1.718	2.618	10.7	19.6
1 6	4 21.16	+14 16.2	2.718	3.526	10.4	21.5	1 6	4 18.01	+14 2.4	1.806	2.628	14.2	19.9
458087	2010 <i>AY</i> ₆₂	12	4.8	319°99	5°2/ 2.3	18	168564	1999 <i>XM</i> ₈₅	12	4.8	338°36	4°0/ 6.3	18
10 28	5 8.90	+14 15.4	1.841	2.652	14.9	20.3	10 28	5 14.22	+34 22.3	1.540	2.336	18.0	19.1
11 7	5 5.70	+12 48.7	1.732	2.618	12.0	20.0	11 7	5 10.58	+34 8.4	1.455	2.328	14.6	18.9
11 17	4 59.96	+11 17.1	1.645	2.584	8.6	19.7	11 17	5 3.51	+33 37.8	1.389	2.321	10.6	18.6
11 27	4 52.25	+9 45.6	1.585	2.551	5.7	19.5	11 27	4 53.87	+32 47.5	1.346	2.314	6.3	18.4
12 7	4 43.46	+8 20.4	1.552	2.518	5.6	19.4	12 7	4 43.08	+31 37.8	1.330	2.308	4.0	18.2
12 17	4 34.70	+7 7.9	1.547	2.485	8.7	19.5	12 17	4 32.79	+30 13.3	1.341	2.302	6.9	18.4
12 27	4 27.15	+6 13.6	1.568	2.453	12.5	19.7	12 27	4 24.56	+28 42.4	1.378	2.297	11.3	18.6
1 6	4 21.74	+5 39.7	1.611	2.422	16.2	19.8	1 6	4 19.40	+27 14.0	1.439	2.293	15.4	18.8
252079	2000 <i>SY</i> ₃₀₆	12	4.8	89°04	0°7/ 4.9	18	140856	2001 <i>UY</i> ₂₁₉	12	4.8	286°80	2°9/ 5.4	17
10 28	5 20.86	+25 35.0	1.408	2.212	19.0	20.2	10 28	5 15.51	+28 31.0	1.973	2.760	14.9	20.7
11 7	5 15.30	+25 22.0	1.349	2.233	14.8	20.0	11 7	5 10.90	+29 9.5	1.879	2.751	11.9	20.5
11 17	5 6.32	+25 1.0	1.310	2.253	9.9	19.8	11 17	5 3.47	+29 43.0	1.808	2.742	8.4	20.3
11 27	4 54.96	+24 31.3	1.295	2.273	4.5	19.5	11 27	4 53.84	+30 8.3	1.762	2.732	4.7	20.0
12 7	4 42.76	+23 54.4	1.308	2.292	1.3	19.4	12 7	4 43.06	+30 23.0	1.745	2.723	3.0	19.9
12 17	4 31.40	+23 13.9	1.348	2.311	6.6	19.8	12 17	4 32.41	+30 26.9	1.756	2.714	5.9	20.1
12 27	4 22.33	+22 35.3	1.415	2.330	11.4	20.1	12 27	4 23.20	+30 22.0	1.795	2.705	9.7	20.3
1 6	4 16.43	+22 3.5	1.505	2.348	15.4	20.4	1 6	4 16.44	+30 12.5	1.859	2.696	13.2	20.5
191611	2004 <i>HU</i> ₄₅	12	4.8	145°90	3°9/ 5.6	18	112050	2002 <i>JF</i> ₉	12	4.8	212°59	1°2/ 4.5	18
10 28	5 22.56	+30 59.7	1.984	2.753	15.5	20.9	10 28	5 17.34	+20 50.0	1.593	2.398	17.1	20.5
11 7	5 16.25	+31 51.9	1.905	2.763	12.4	20.7	11 7	5 12.55	+20 30.3	1.509	2.395	13.5	20.3
11 17	5 6.92	+32 37.0	1.849	2.773	8.9	20.6	11 17	5 4.63	+20 7.0	1.446	2.391	9.0	20.0
11 27	4 55.31	+33 10.4	1.819	2.782	5.4	20.4	11 27	4 54.35	+19 40.6	1.408	2.386	4.1	19.7
12 7	4 42.63	+33 29.1	1.818	2.791	3.9	20.3	12 7	4 42.94	+19 13.1	1.398	2.382	1.8	19.5
12 17	4 30.29	+33 32.6	1.847	2.798	6.3	20.5	12 17	4 31.88	+18 47.1	1.416	2.376	6.7	19.8
12 27	4 19.68	+33 23.9	1.904	2.805	9.8	20.7	12 27	4 22.59	+18 26.4	1.460	2.371	11.5	20.1
1 6	4 11.76	+33 8.2	1.987	2.812	13.0	20.9	1 6	4 16.09	+18 13.9	1.528	2.365	15.6	20.3
192132	2006 <i>DK</i> ₁₂₀	12	4.8	145°63	0°0/ 4.7	17	177957	2006 <i>OC</i> ₁₄	12	4.8	96°03	2°5/ 4.3	1

EPHEMERIDES

12 4.8

12 4.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
43742	1981 <i>EX</i> ₁₂		12 4.8 164°76'	3°8'	3.3	18	294799	2008 <i>CR</i> ₇₆		12 4.8 6°84'	0°2'	4.8	18
10 28	5 12.43	+13 25.3	2.254	3.045	13.2	19.7	10 28	5 14.39	+21 4.5	1.659	2.466	16.4	20.2
11 7	5 7.60	+12 33.8	2.173	3.048	10.4	19.5	11 7	5 10.19	+21 32.7	1.580	2.467	12.9	20.0
11 17	5 0.73	+11 43.3	2.116	3.051	7.3	19.3	11 17	5 3.04	+22 0.9	1.523	2.467	8.6	19.8
11 27	4 52.42	+10 56.7	2.087	3.053	4.5	19.1	11 27	4 53.65	+22 27.5	1.491	2.469	3.9	19.5
12 7	4 43.51	+10 17.2	2.087	3.056	4.0	19.1	12 7	4 43.18	+22 51.5	1.486	2.470	1.1	19.3
12 17	4 34.90	+9 47.5	2.116	3.058	6.5	19.2	12 17	4 32.99	+23 12.3	1.509	2.472	6.0	19.6
12 27	4 27.46	+9 29.6	2.174	3.059	9.5	19.4	12 27	4 24.44	+23 31.2	1.559	2.475	10.5	19.9
1 6	4 21.85	+9 23.9	2.256	3.060	12.4	19.6	1 6	4 18.51	+23 50.2	1.633	2.478	14.4	20.1
244717	2003 <i>QL</i> ₆₉		12 4.8 29°26'	14°8'	13.7	17	487460	2014 <i>SE</i> ₁₁₅		12 4.8 128°78'	0°6'	4.9	18
10 28	5 30.12	+60 51.1	1.775	2.431	20.7	18.9	10 28	5 12.79	+24 39.2	2.334	3.121	12.9	21.8
11 7	5 25.16	+62 23.4	1.727	2.449	19.0	18.8	11 7	5 8.01	+24 37.8	2.251	3.126	10.1	21.6
11 17	5 14.33	+63 28.1	1.693	2.468	17.3	18.7	11 17	5 1.08	+24 31.9	2.191	3.130	6.8	21.4
11 27	4 58.93	+63 54.3	1.677	2.487	15.9	18.7	11 27	4 52.62	+24 21.3	2.158	3.134	3.1	21.2
12 7	4 41.70	+63 35.3	1.680	2.508	14.9	18.7	12 7	4 43.49	+24 6.1	2.154	3.138	1.0	21.0
12 17	4 25.95	+62 31.8	1.704	2.529	14.8	18.7	12 17	4 34.64	+23 48.0	2.181	3.142	4.6	21.3
12 27	4 14.36	+60 52.3	1.748	2.552	15.4	18.8	12 27	4 27.01	+23 29.2	2.236	3.146	8.1	21.5
1 6	4 8.11	+58 50.2	1.812	2.574	16.5	18.9	1 6	4 21.28	+23 12.4	2.318	3.150	11.1	21.7
144939	2005 <i>EJ</i> ₁₆		12 4.8 228°08'	4°3'	5.8	18	335470	2005 <i>WU</i> ₆₃		12 4.8 10°44'	12°0'	3.2	18
10 28	5 20.32	+32 1.7	1.611	2.397	17.8	20.8	10 28	5 11.19	-1 25.1	1.254	2.062	20.7	19.7
11 7	5 15.37	+32 33.4	1.523	2.391	14.4	20.5	11 7	5 8.03	-2 34.9	1.198	2.064	17.6	19.5
11 17	5 6.83	+32 55.1	1.455	2.385	10.4	20.3	11 17	5 1.70	-3 25.4	1.159	2.066	14.6	19.3
11 27	4 55.45	+33 2.0	1.412	2.378	6.3	20.0	11 27	4 53.04	-3 47.6	1.141	2.069	12.4	19.2
12 7	4 42.63	+32 51.1	1.395	2.370	4.4	19.9	12 7	4 43.38	-3 35.7	1.144	2.074	12.2	19.2
12 17	4 30.11	+32 23.1	1.406	2.362	7.3	20.0	12 17	4 34.21	-2 48.6	1.171	2.079	13.9	19.3
12 27	4 19.60	+31 43.1	1.443	2.354	11.5	20.3	12 27	4 26.94	-1 30.3	1.219	2.085	16.8	19.5
1 6	4 12.32	+30 58.5	1.504	2.346	15.6	20.5	1 6	4 22.51	+0 11.4	1.286	2.092	19.7	19.7
219925	2002 <i>GB</i> ₇₅		12 4.8 104°03'	3°7'	5.8	18	36502	2000 <i>QM</i> ₅₇		12 4.8 32°75'	3°9'	4.3	18
10 28	5 16.46	+32 11.0	2.304	3.073	13.6	20.2	10 28	5 15.04	+14 41.8	1.080	1.917	21.5	18.4
11 7	5 11.11	+32 52.4	2.225	3.082	10.9	20.1	11 7	5 11.60	+14 30.9	1.025	1.926	16.9	18.2
11 17	5 3.28	+33 26.3	2.169	3.092	7.9	19.9	11 17	5 4.35	+14 25.3	0.988	1.936	11.5	17.9
11 27	4 53.64	+33 49.4	2.139	3.101	4.9	19.7	11 27	4 54.28	+14 27.4	0.972	1.947	6.1	17.7
12 7	4 43.17	+33 59.9	2.139	3.110	3.7	19.7	12 7	4 43.04	+14 38.8	0.979	1.959	4.2	17.6
12 17	4 32.99	+33 57.7	2.168	3.119	5.6	19.8	12 17	4 32.50	+15 0.2	1.012	1.972	8.8	17.9
12 27	4 24.19	+33 45.5	2.226	3.128	8.5	20.0	12 27	4 24.37	+15 32.0	1.067	1.985	13.9	18.2
1 6	4 17.60	+33 27.4	2.309	3.137	11.3	20.2	1 6	4 19.69	+16 13.0	1.143	1.999	18.4	18.5
462260	2008 <i>EC</i> ₂₃		12 4.8 301°65'	19°6'	26.3	17	94684	2001 <i>XF</i> ₂₅		12 4.8 11°13'	4°7'	5.5	18
10 28	5 12.76	-8 26.1	1.094	1.890	23.8	20.7	10 28	5 14.06	+28 49.1	0.986	1.826	22.8	18.7
11 7	5 9.82	-11 42.3	1.043	1.882	21.7	20.5	11 7	5 11.92	+29 42.7	0.927	1.828	18.3	18.4
11 17	5 3.23	-14 36.8	1.010	1.874	20.1	20.4	11 17	5 5.21	+30 27.7	0.884	1.831	12.9	18.1
11 27	4 53.83	-16 50.9	0.995	1.866	19.6	20.3	11 27	4 54.88	+30 57.8	0.862	1.835	7.4	17.8
12 7	4 43.10	-18 10.6	0.998	1.858	20.3	20.4	12 7	4 42.84	+31 8.6	0.861	1.841	4.8	17.7
12 17	4 32.79	-18 29.4	1.018	1.851	22.0	20.4	12 17	4 31.45	+31 0.2	0.884	1.848	8.9	18.0
12 27	4 24.62	-17 50.1	1.054	1.844	24.3	20.6	12 27	4 22.94	+30 38.9	0.928	1.856	14.3	18.3
1 6	4 19.71	-16 22.9	1.102	1.837	26.5	20.7	1 6	4 18.63	+30 13.0	0.992	1.865	19.1	18.6
448015	2008 <i>DF</i> ₆₁		12 4.8 315°58'	2°3'	4.2	17	125346	2001 <i>VU</i> ₅₄		12 4.8 12°08'	1°9'	5.4	18
10 28	5 11.66	+17 13.3	1.751	2.561	15.6	21.5	10 28	5 15.42	+28 17.9	1.467	2.275	18.2	19.6
11 7	5 7.89	+16 57.9	1.662	2.550	12.3	21.3	11 7	5 11.41	+28 10.4	1.391	2.276	14.4	19.3
11 17	5 1.43	+16 42.6	1.594	2.538	8.4	21.0	11 17	5 4.02	+27 52.5	1.335	2.277	9.9	19.1
11 27	4 52.92	+16 29.0	1.551	2.527	4.2	20.7	11 27	4 54.11	+27 22.5	1.303	2.278	4.9	18.8
12 7	4 43.37	+16 18.9	1.536	2.517	2.7	20.6	12 7	4 43.08	+26 41.3	1.297	2.280	2.1	18.6
12 17	4 34.01	+16 14.1	1.548	2.506	6.5	20.8	12 17	4 32.58	+25 52.3	1.318	2.282	6.5	18.9
12 27	4 26.08	+16 16.5	1.588	2.497	10.8	21.1	12 27	4 24.11	+25 1.6	1.365	2.284	11.4	19.2
1 6	4 20.50	+16 27.3	1.650	2.487	14.6	21.3	1 6	4 18.69	+24 15.3	1.435	2.287	15.6	19.4
103380	2000 <i>AN</i> ₁₂₀		12 4.8 14°33'	0°4'	4.9	18	474858	2005 <i>SO</i> ₁₀₁		12 4.8 101°94'	0°1'	4.8	16
10 28	5 14.44	+25 53.5	1.297	2.119	19.4	18.9	10 28	5 19.76	+24 6.5	1.725	2.518	16.5	22.3
11 7	5 10.89	+25 24.9	1.227	2.121	15.2	18.6	11 7	5 13.84	+23 51.3	1.662	2.540	12.8	22.1
11 17	5 3.76	+24 46.0	1.176	2.123	10.3	18.3	11 17	5 5.09	+23 30.3	1.620	2.561	8.5	21.9
11 27	4 53.99	+23 56.8	1.147	2.126	4.7	18.0	11 27	4 54.40	+23 3.3	1.605	2.582	3.8	21.6
12 7	4 43.10	+23 0.3	1.144	2.129	1.3	17.8	12 7	4 43.03	+22 31.8	1.618	2.603	1.1	21.5
12 17	4 32.81	+22 1.5	1.168	2.133	7.0	18.2	12 17	4 32.33	+21 58.7	1.661	2.623	5.7	21.9
12 27	4 24.72	+21 7.3	1.216	2.137	12.3	18.5	12 27	4 23.49	+21 27.9	1.732	2.642	10.0	22.1
1 6	4 19.85	+20 23.2	1.287	2.142	16.8	18.8	1 6	4 17.30	+21 2.8	1.827	2.661	13.6	22.4
57361	2001 <i>RE</i> ₁₇		12 4.8 313°34'	3°5'	3.8	18	516018	2015 <i>RC</i> ₂₅₈		12 4.8 138°69'	0°9'	4.6	18
10 28	5 11.67	+14 36.8	1.869	2.674	15.0	19.3	10 28	5 14.16	+20 14.8	2.046	2.841	14.2	21.7
11 7	5 7.58	+14 5.7	1.786	2.669	11.8	19.1	11 7	5 9.31	+20 10.0	1.965	2.845	11.1	21.5
11 17	5 1.04	+13 36.1	1.724	2.664	8.2	18.9	11 17	5 2.07	+20 3.6	1.907	2.849	7.4	21.3
11 27	4 52.67	+13 10.3	1.688	2.659	4.6	18.7	11 27	4 53.11	+19 55.8	1.875	2.852	3.4	21.1
12 7	4 43.46	+12 51.1	1.679	2.655	3.7	18.6	12 7	4 43.37	+19 47.4	1.872	2.856	1.3	20.9
12 17	4 34.50	+12 40.7	1.699	2.650	6.8	18.8	12 17	4 33.94	+19 39.8	1.899	2.859	5.3	21.2
12 27	4 26.89	+12 40.8	1.746	2.646	10.6	19.0	12 27	4 25.87	+19 35.0	1.955	2.863	9.2	21.5
1 6	4 21.45	+12 51.8	1.817	2.642	14.0	19.2	1 6	4 19.92	+19 34.6	2.035	2.866	12.5	21.7
268257	2005 <i>NA</i> ₂₁		12 4.8 44°15'	0°3'	4.8	18	420613	2012 <i>HK</i> ₆₁		12 4.8 86°04'	5°0'		

EPHEMERIDES

12 4.8

12 4.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V		
191160	2002 <i>JV</i> ₇₃	12	4.8	88°46'	3°0'	4.1	18	38168	1999 <i>JZ</i> ₉₁	12	4.8	55°03'	4°2'	4.4	18
10 28	5 13.79	+11 48.1	2.477	3.257	12.4	20.1	10 28	5 18.91	+13 14.2	1.154	1.978	21.2	17.2		
11 7	5 8.32	+11 44.6	2.414	3.283	9.7	19.9	11 7	5 14.12	+13 8.5	1.108	2.001	16.6	17.0		
11 17	5 1.03	+11 45.2	2.375	3.308	6.7	19.8	11 17	5 5.72	+13 9.8	1.080	2.024	11.3	16.8		
11 27	4 52.53	+11 51.0	2.365	3.332	3.9	19.6	11 27	4 54.80	+13 20.1	1.074	2.048	6.2	16.6		
12 7	4 43.57	+12 2.7	2.384	3.357	3.2	19.6	12 7	4 43.01	+13 40.0	1.094	2.072	4.4	16.6		
12 17	4 34.97	+12 20.8	2.434	3.380	5.4	19.8	12 17	4 32.11	+14 9.7	1.139	2.096	8.5	16.9		
12 27	4 27.51	+12 45.1	2.513	3.404	8.2	20.0	12 27	4 23.63	+14 48.3	1.209	2.121	13.2	17.2		
1 6	4 21.74	+13 15.4	2.619	3.427	10.7	20.2	1 6	4 18.46	+15 34.5	1.300	2.145	17.3	17.5		
482903	2014 <i>HP</i> ₁₈	12	4.8	339°71'	3°7'	3.8	18	251362	2007 <i>TU</i> ₄₀₈	12	4.8	30°08'	1°1'	5.1	18
10 28	5 11.97	+16 1.7	1.527	2.345	17.1	21.0	10 28	5 14.06	+27 40.4	0.918	1.765	23.6	19.7		
11 7	5 8.36	+15 18.0	1.449	2.341	13.5	20.7	11 7	5 11.48	+27 8.1	0.873	1.780	18.5	19.4		
11 17	5 1.83	+14 33.7	1.392	2.336	9.3	20.5	11 17	5 4.46	+26 21.4	0.843	1.796	12.4	19.1		
11 27	4 53.11	+13 52.3	1.358	2.332	5.1	20.2	11 27	4 54.33	+25 20.7	0.834	1.813	5.8	18.9		
12 7	4 43.38	+13 17.7	1.352	2.329	4.1	20.2	12 7	4 43.16	+24 10.7	0.847	1.832	1.7	18.7		
12 17	4 33.99	+12 53.4	1.372	2.326	7.8	20.4	12 17	4 33.13	+22 59.1	0.884	1.852	8.0	19.1		
12 27	4 26.28	+12 42.2	1.417	2.323	12.1	20.6	12 27	4 26.07	+21 55.3	0.943	1.873	13.8	19.5		
1 6	4 21.16	+12 45.0	1.485	2.321	16.0	20.9	1 6	4 22.86	+21 5.5	1.022	1.895	18.7	19.9		
46416	2002 <i>HK</i>	12	4.8	66°52'	2°2'	4.4	18	481954	2009 <i>DX</i> ₈₆	12	4.8	330°84'	3°0'	4.0	18
10 28	5 15.47	+17 15.8	1.605	2.414	16.9	19.1	10 28	5 9.74	+17 48.6	1.406	2.234	17.8	21.4		
11 7	5 10.76	+17 7.1	1.540	2.427	13.2	18.9	11 7	5 7.09	+17 14.2	1.320	2.218	14.1	21.1		
11 17	5 3.21	+16 59.4	1.497	2.441	8.8	18.7	11 17	5 1.28	+16 37.7	1.254	2.202	9.6	20.8		
11 27	4 53.64	+16 53.7	1.478	2.454	4.3	18.5	11 27	4 53.00	+16 1.8	1.211	2.188	4.9	20.5		
12 7	4 43.25	+16 51.3	1.487	2.468	2.5	18.4	12 7	4 43.45	+15 30.1	1.193	2.174	3.4	20.4		
12 17	4 33.37	+16 53.5	1.523	2.482	6.6	18.7	12 17	4 34.11	+15 6.3	1.202	2.161	7.8	20.6		
12 27	4 25.23	+17 1.9	1.587	2.496	10.8	19.0	12 27	4 26.48	+14 54.0	1.235	2.149	12.7	20.9		
1 6	4 19.68	+17 17.1	1.673	2.510	14.5	19.2	1 6	4 21.66	+14 54.9	1.289	2.138	17.2	21.1		
378092	2006 <i>UY</i> ₁₀₈	12	4.8	35°17'	3°7'	4.0	18	69146	2003 <i>FV</i> ₁₂₁	12	4.8	246°43'	2°4'	5.3	18
10 28	5 13.93	+16 45.4	1.152	1.987	20.5	20.4	10 28	5 17.73	+26 56.7	1.743	2.537	16.4	19.6		
11 7	5 10.46	+16 7.0	1.097	1.998	16.1	20.2	11 7	5 12.94	+27 28.4	1.654	2.530	13.0	19.4		
11 17	5 3.41	+15 29.1	1.061	2.010	10.9	19.9	11 17	5 5.02	+27 55.2	1.586	2.524	9.0	19.1		
11 27	4 53.81	+14 55.4	1.047	2.023	5.7	19.7	11 27	4 54.64	+28 14.2	1.543	2.517	4.7	18.9		
12 7	4 43.21	+14 29.6	1.057	2.036	4.1	19.6	12 7	4 42.99	+28 23.1	1.528	2.510	2.5	18.7		
12 17	4 33.35	+14 15.2	1.092	2.051	8.5	19.9	12 17	4 31.54	+28 21.9	1.542	2.502	6.2	18.9		
12 27	4 25.76	+14 14.4	1.151	2.066	13.4	20.3	12 27	4 21.77	+28 13.4	1.583	2.495	10.6	19.2		
1 6	4 21.39	+14 27.4	1.231	2.081	17.7	20.6	1 6	4 14.75	+28 2.1	1.647	2.488	14.5	19.4		
354465	2004 <i>BF</i> ₁₅₂	12	4.8	244°68'	2°8'	5.7	17	49389	1998 <i>XS</i> ₂₀	12	4.8	153°08'	3°8'	6.6	18 R
10 28	5 16.25	+31 5.8	2.230	3.003	13.9	21.7	10 28	5 18.73	+36 45.7	2.614	3.358	12.8	18.4		
11 7	5 11.15	+31 13.1	2.127	2.989	11.1	21.5	11 7	5 12.51	+36 46.9	2.528	3.367	10.4	18.2		
11 17	5 3.47	+31 11.6	2.046	2.975	7.9	21.3	11 17	5 4.01	+36 36.5	2.466	3.376	7.7	18.1		
11 27	4 53.82	+30 59.2	1.992	2.960	4.5	21.0	11 27	4 53.93	+36 12.1	2.430	3.384	5.1	17.9		
12 7	4 43.19	+30 34.9	1.967	2.945	2.8	20.9	12 7	4 43.24	+35 33.5	2.425	3.391	3.8	17.8		
12 17	4 32.73	+30 0.1	1.972	2.930	5.4	21.0	12 17	4 32.99	+34 42.5	2.450	3.398	5.2	17.9		
12 27	4 23.62	+29 18.4	2.006	2.914	8.9	21.2	12 27	4 24.14	+33 43.2	2.505	3.404	7.8	18.1		
1 6	4 16.74	+28 34.7	2.065	2.898	12.3	21.4	1 6	4 17.39	+32 40.8	2.587	3.410	10.4	18.3		
59476	1999 <i>HQ</i> ₂	12	4.8	156°93'	1°9'	4.3	18	58075	2205 <i>T-2</i>	12	4.8	301°07'	0°3'	4.9	18
10 28	5 18.33	+19 46.4	1.635	2.437	16.9	19.5	10 28	5 11.02	+23 23.1	2.269	3.063	13.0	19.0		
11 7	5 13.06	+19 15.8	1.559	2.443	13.2	19.3	11 7	5 6.90	+23 24.1	2.170	3.048	10.2	18.8		
11 17	5 4.82	+18 42.0	1.505	2.448	8.9	19.0	11 17	5 0.54	+23 21.8	2.093	3.035	6.9	18.5		
11 27	4 54.40	+18 6.5	1.475	2.452	4.2	18.8	11 27	4 52.50	+23 15.7	2.043	3.021	3.1	18.3		
12 7	4 43.06	+17 31.7	1.474	2.456	2.3	18.7	12 7	4 43.61	+23 6.2	2.023	3.007	0.9	18.1		
12 17	4 32.19	+17 1.0	1.501	2.460	6.7	18.9	12 17	4 34.85	+22 54.2	2.031	2.993	4.8	18.3		
12 27	4 23.11	+16 37.8	1.556	2.463	11.2	19.2	12 27	4 27.21	+22 42.1	2.069	2.980	8.5	18.5		
1 6	4 16.72	+16 24.6	1.634	2.465	15.1	19.5	1 6	4 21.48	+22 32.1	2.131	2.967	11.8	18.7		
48504	1993 <i>FK</i> ₉	12	4.8	355°41'	2°9'	5.3	18	188215	2002 <i>TY</i> ₂₂	12	4.8	24°43'	1°4'	4.5	18
10 28	5 16.03	+26 47.8	1.326	2.142	19.3	18.3	10 28	5 12.57	+21 2.5	1.070	1.912	21.3	19.9		
11 7	5 12.43	+27 27.8	1.251	2.140	15.4	18.1	11 7	5 9.80	+20 43.7	1.016	1.921	16.6	19.6		
11 17	5 5.07	+28 2.7	1.195	2.138	10.7	17.8	11 17	5 3.19	+20 21.1	0.980	1.932	11.1	19.4		
11 27	4 54.74	+28 28.3	1.162	2.137	5.6	17.5	11 27	4 53.79	+19 56.1	0.965	1.945	5.0	19.1		
12 7	4 42.93	+28 41.7	1.155	2.136	3.1	17.4	12 7	4 43.29	+19 31.4	0.974	1.958	2.1	18.9		
12 17	4 31.48	+28 42.6	1.173	2.136	7.3	17.6	12 17	4 33.56	+19 10.4	1.008	1.973	7.8	19.3		
12 27	4 22.22	+28 34.9	1.216	2.137	12.4	17.9	12 27	4 26.27	+18 57.2	1.064	1.988	13.3	19.7		
1 6	4 16.36	+28 24.0	1.281	2.138	16.8	18.2	1 6	4 22.41	+18 54.2	1.141	2.005	17.9	20.0		
62674	2000 <i>TL</i> ₁₁	12	4.8	137°35'	0°7'	5.0	18	15796	1993 <i>TZ</i> ₃₈	12	4.8	123°67'	3°9'	3.9	18
10 28	5 13.86	+24 27.8	2.163	2.952	13.7	20.2	10 28	5 16.06	+13 11.8	1.803	2.600	15.7	17.8		
11 7	5 9.05	+24 31.9	2.079	2.955	10.7	20.0	11 7	5 10.89	+12 43.1	1.733	2.611	12.4	17.6		
11 17	5 1.91	+24 31.8	2.018	2.958	7.2	19.8	11 17	5 3.16	+12 17.5	1.684	2.621	8.6	17.4		
11 27	4 53.06	+24 26.7	1.984	2.961	3.3	19.6	11 27	4 53.62	+11 57.7	1.662	2.631	5.0	17.2		
12 7	4 43.45	+24 16.9	1.979	2.964	1.0	19.4	12 7	4 43.33	+11 46.0	1.668	2.641	4.1	17.2		
12 17	4 34.13	+24 3.5	2.004	2.966	4.9	19.7	12 17	4 33.47	+11 44.2	1.702	2.650	7.1	17.4		
12 27	4 26.12	+23 48.9	2.058	2.969	8.6	19.9	12 27	4 25.15	+11 53.2	1.764	2.659	10.8	17.6		
1 6	4 20.18	+23 35.9	2.137	2.971	11.9	20.1	1 6	4 19.15	+12 12.9	1.850	2.668	14.1	17.9		
381040	2006 <i>VJ</i> ₁₀₇	12	4.8	24°22'	0°6'	5.0	18	517109							

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
28497	2000 <i>CJ</i> ₆₉	12	4.8 170°45	0°0/ 4.6	18	R	259076	2002 <i>VA</i> ₂₁	12	4.8 2°18	0°0/ 4.7	18	
10 28	5 18.26	+23 2.5	1.999	2.786	14.8	20.2	10 28	5 13.50	+25 48.9	1.694	2.498	16.3	19.7
11 7	5 12.60	+22 56.0	1.915	2.790	11.6	19.9	11 7	5 9.35	+25 3.5	1.613	2.498	12.8	19.5
11 17	5 4.35	+22 45.4	1.854	2.794	7.7	19.7	11 17	5 2.36	+24 8.2	1.554	2.498	8.6	19.2
11 27	4 54.19	+22 30.2	1.819	2.797	3.5	19.5	11 27	4 53.33	+23 4.2	1.520	2.498	3.9	19.0
12 7	4 43.18	+22 11.2	1.814	2.799	1.0	19.3	12 7	4 43.45	+21 54.5	1.514	2.498	1.1	18.8
12 17	4 32.52	+21 50.0	1.839	2.800	5.4	19.6	12 17	4 34.04	+20 44.2	1.536	2.499	6.0	19.1
12 27	4 23.36	+21 29.7	1.893	2.801	9.4	19.8	12 27	4 26.32	+19 39.3	1.586	2.500	10.5	19.4
1 6	4 16.53	+21 13.4	1.972	2.801	12.9	20.1	1 6	4 21.15	+18 44.5	1.660	2.502	14.3	19.6
404345	2013 <i>FT</i> ₂₆	12	4.8 164°15	1°9/ 5.3	18		198747	2005 <i>EN</i> ₅₁	12	4.8 329°20	0°1/ 4.8	18	
10 28	5 15.27	+27 15.7	2.071	2.857	14.3	21.4	10 28	5 9.46	+22 16.9	1.308	2.140	18.7	19.7
11 7	5 10.38	+27 33.2	1.986	2.858	11.3	21.2	11 7	5 7.41	+22 17.5	1.215	2.116	14.8	19.4
11 17	5 2.92	+27 45.1	1.923	2.859	7.8	21.0	11 17	5 1.86	+22 14.3	1.142	2.092	10.1	19.0
11 27	4 53.58	+27 49.5	1.887	2.860	4.0	20.7	11 27	4 53.43	+22 7.2	1.091	2.070	4.6	18.7
12 7	4 43.34	+27 45.6	1.879	2.861	2.0	20.6	12 7	4 43.36	+21 56.6	1.064	2.049	1.3	18.4
12 17	4 33.39	+27 34.2	1.901	2.862	5.2	20.8	12 17	4 33.33	+21 44.4	1.063	2.029	7.3	18.7
12 27	4 24.85	+27 18.1	1.952	2.863	9.0	21.0	12 27	4 25.13	+21 34.1	1.085	2.010	13.0	19.0
1 6	4 18.58	+27 0.9	2.027	2.863	12.3	21.3	1 6	4 20.09	+21 29.6	1.129	1.993	18.0	19.2
190236	2007 <i>BF</i> ₇₈	12	4.8 193°20	3°0/ 3.7	17		511673	2015 <i>BQ</i> ₄₁₅	12	4.8 78°53	0°4/ 4.8	18	
10 28	5 10.84	+14 45.4	2.362	3.155	12.6	20.7	10 28	5 20.84	+21 2.5	1.341	2.152	19.4	21.2
11 7	5 6.37	+14 6.8	2.277	3.154	9.9	20.5	11 7	5 15.45	+21 11.3	1.285	2.173	15.1	21.0
11 17	4 59.96	+13 28.7	2.216	3.153	6.8	20.3	11 17	5 6.57	+21 18.1	1.249	2.195	10.1	20.7
11 27	4 52.16	+12 53.3	2.182	3.152	3.9	20.2	11 27	4 55.23	+21 22.0	1.237	2.216	4.5	20.5
12 7	4 43.75	+12 23.2	2.178	3.151	3.3	20.1	12 7	4 42.96	+21 23.1	1.252	2.236	1.3	20.3
12 17	4 35.58	+12 0.5	2.203	3.150	5.8	20.3	12 17	4 31.47	+21 22.5	1.294	2.257	6.8	20.7
12 27	4 28.49	+11 47.1	2.257	3.149	8.9	20.5	12 27	4 22.28	+21 23.2	1.362	2.278	11.7	21.1
1 6	4 23.12	+11 43.7	2.335	3.147	11.7	20.6	1 6	4 16.29	+21 27.9	1.453	2.298	15.8	21.4
458075	2010 <i>AG</i> ₂₁	12	4.8 307°69	0°6/ 4.7	17		82231	2001 <i>HO</i> ₆₇	12	4.8 115°84	1°5/ 4.4	18	
10 28	5 10.78	+21 11.2	2.162	2.960	13.4	21.6	10 28	5 19.26	+19 13.5	1.791	2.584	16.0	20.4
11 7	5 6.78	+21 5.8	2.065	2.947	10.5	21.4	11 7	5 13.37	+18 58.9	1.725	2.603	12.4	20.2
11 17	5 0.50	+20 58.1	1.991	2.934	7.1	21.2	11 17	5 4.80	+18 42.9	1.681	2.622	8.3	20.0
11 27	4 52.50	+20 48.3	1.943	2.921	3.2	20.9	11 27	4 54.35	+18 26.2	1.663	2.640	3.8	19.8
12 7	4 43.64	+20 37.2	1.924	2.909	1.1	20.7	12 7	4 43.20	+18 10.3	1.675	2.657	1.9	19.7
12 17	4 34.93	+20 26.1	1.935	2.896	5.1	21.0	12 17	4 32.60	+17 57.0	1.716	2.674	6.0	20.0
12 27	4 27.38	+20 17.2	1.973	2.884	8.9	21.2	12 27	4 23.71	+17 48.8	1.784	2.690	10.1	20.3
1 6	4 21.78	+20 12.4	2.037	2.872	12.3	21.4	1 6	4 17.31	+17 47.2	1.878	2.705	13.5	20.5
97816	2000 <i>OW</i> ₄₈	12	4.8 98°05	3°6/ 5.7	18	R	410162	2007 <i>LU</i> ₂	12	4.8 95°14	6°9/ 1.6	18	
10 28	5 24.23	+30 8.5	1.496	2.285	18.8	19.3	10 28	5 11.04	+ 0 28.6	2.682	3.442	12.1	21.8
11 7	5 18.07	+30 40.4	1.437	2.307	14.9	19.1	11 7	5 6.03	+ 0 52.4	2.630	3.466	10.1	21.7
11 17	5 8.33	+31 2.5	1.397	2.329	10.4	18.9	11 17	4 59.45	+ 2 4.6	2.602	3.490	8.3	21.6
11 27	4 56.01	+31 10.4	1.381	2.351	5.9	18.7	11 27	4 51.86	+ 3 3.5	2.601	3.514	7.1	21.5
12 7	4 42.71	+31 2.1	1.393	2.371	3.7	18.6	12 7	4 43.91	+ 3 45.8	2.628	3.537	7.1	21.6
12 17	4 30.21	+30 39.4	1.433	2.392	6.9	18.9	12 17	4 36.31	+ 4 9.7	2.684	3.560	8.3	21.7
12 27	4 20.08	+30 8.0	1.500	2.411	11.1	19.2	12 27	4 29.71	+ 4 15.0	2.766	3.583	10.0	21.8
1 6	4 13.27	+29 34.4	1.590	2.430	14.9	19.5	1 6	4 24.58	+ 4 3.6	2.871	3.605	11.7	22.0
301925	1999 <i>XZ</i> ₆₉	12	4.8 288°55	0°8/ 4.7	18		3090	Tjosses	12	4.8 64°24	4°4/ 3.4	18	
10 28	5 17.73	+19 40.7	2.080	2.866	14.3	20.4	10 28	5 9.97	+10 26.3	2.274	3.067	13.0	17.9
11 7	5 12.72	+19 47.9	1.949	2.824	11.4	20.1	11 7	5 5.71	+ 9 46.3	2.200	3.073	10.3	17.7
11 17	5 4.89	+19 55.1	1.841	2.781	7.8	19.8	11 17	4 59.51	+ 9 10.3	2.149	3.080	7.4	17.5
11 27	4 54.69	+20 2.0	1.760	2.737	3.6	19.5	11 27	4 51.97	+ 8 41.1	2.125	3.087	5.0	17.4
12 7	4 42.98	+20 8.1	1.709	2.692	1.4	19.2	12 7	4 43.87	+ 8 21.3	2.130	3.094	4.6	17.4
12 17	4 30.93	+20 14.0	1.687	2.647	5.9	19.4	12 17	4 36.05	+ 8 12.7	2.163	3.100	6.6	17.5
12 27	4 19.90	+20 21.2	1.695	2.600	10.5	19.6	12 27	4 29.34	+ 8 16.2	2.224	3.107	9.4	17.7
1 6	4 11.04	+20 31.6	1.728	2.553	14.6	19.7	1 6	4 24.35	+ 8 31.3	2.310	3.114	12.1	17.9
388166	2006 <i>AN</i> ₂₈	12	4.8 21°53	5°0/ 4.2	18		311302	2005 <i>JD</i> ₄₄	12	4.8 172°46	2°1/ 5.3	18	
10 28	5 13.95	+11 11.6	1.362	2.181	18.8	20.5	10 28	5 18.05	+27 36.3	2.502	3.270	12.6	21.4
11 7	5 10.12	+10 58.6	1.295	2.185	14.9	20.3	11 7	5 12.13	+28 10.3	2.413	3.274	10.0	21.2
11 17	5 3.11	+10 53.3	1.249	2.189	10.5	20.1	11 17	5 3.92	+28 39.9	2.347	3.277	6.9	21.0
11 27	4 53.74	+10 58.9	1.225	2.195	6.4	19.8	11 27	4 54.02	+29 2.8	2.309	3.279	3.7	20.8
12 7	4 43.32	+11 17.2	1.227	2.201	5.2	19.8	12 7	4 43.29	+29 17.5	2.301	3.281	2.2	20.7
12 17	4 33.34	+11 48.6	1.255	2.207	8.5	20.0	12 17	4 32.75	+29 23.8	2.325	3.282	4.8	20.9
12 27	4 25.25	+12 32.3	1.307	2.214	12.9	20.3	12 27	4 23.41	+29 23.5	2.379	3.283	8.0	21.1
1 6	4 20.00	+13 26.1	1.382	2.221	16.8	20.5	1 6	4 16.05	+29 19.4	2.459	3.283	10.9	21.3
390224	2012 <i>XZ</i> ₃₈	12	4.8 251°37	1°0/ 4.5	18		251490	2008 <i>EU</i> ₃₅	12	4.8 334°50	0°9/ 4.6	18	
10 28	5 14.81	+20 56.9	1.899	2.697	15.0	21.9	10 28	5 12.96	+20 13.2	1.864	2.667	15.1	20.6
11 7	5 10.21	+20 41.1	1.804	2.686	11.8	21.6	11 7	5 8.73	+20 10.2	1.780	2.664	11.8	20.4
11 17	5 2.95	+20 22.1	1.732	2.674	7.9	21.4	11 17	5 1.92	+20 5.6	1.718	2.662	7.9	20.2
11 27	4 53.65	+20 0.3	1.685	2.662	3.6	21.1	11 27	4 53.18	+19 59.9	1.682	2.659	3.6	19.9
12 7	4 43.33	+19 37.2	1.667	2.650	1.5	20.9	12 7	4 43.53	+19 53.7	1.673	2.657	1.4	19.7
12 17	4 33.21	+19 14.8	1.678	2.638	5.9	21.2	12 17	4 34.14	+19 48.3	1.693	2.655	5.7	20.0
12 27	4 24.49	+18 56.2	1.716	2.625	10.1	21.4	12 27	4 26.17	+19 45.9	1.741	2.653	9.8	20.3
1 6	4 18.09	+18 44.0	1.779	2.612	13.9	21.6	1 6	4 20.48	+19 48.3	1.813	2.651	13.5	20.5
264921	2002 <i>TQ</i> ₃₁₂	12	4.8 202°36	1°9/ 4.5	18		46724	1997 <i>SU</i> ₇	12	4.8 347°85	5°6/ 6.4	18	

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
366794	2004 VS ₅₉	12	4.8 335°13	0°4/ 4.7 17			156844	2003 CS ₇	12	4.9 258°85	2°8/ 4.2 18		
10 28	5 11.07	+24 17.0	1.937	2.739	14.6	20.2	10 28	5 15.36	+16 5.7	1.745	2.548	16.0	20.5
11 7	5 7.19	+23 39.3	1.848	2.732	11.5	20.0	11 7	5 10.87	+15 50.0	1.652	2.535	12.6	20.3
11 17	5 0.83	+22 54.1	1.781	2.725	7.7	19.8	11 17	5 3.55	+15 35.4	1.581	2.522	8.7	20.0
11 27	4 52.67	+22 2.7	1.741	2.719	3.4	19.5	11 27	4 54.03	+15 23.5	1.534	2.509	4.5	19.7
12 7	4 43.69	+21 7.4	1.728	2.713	1.1	19.3	12 7	4 43.37	+15 16.0	1.516	2.495	3.1	19.6
12 17	4 35.02	+20 11.9	1.745	2.707	5.5	19.6	12 17	4 32.85	+15 14.9	1.525	2.481	6.9	19.8
12 27	4 27.76	+19 20.9	1.790	2.702	9.6	19.9	12 27	4 23.78	+15 21.7	1.562	2.467	11.2	20.0
1 6	4 22.68	+18 37.9	1.859	2.698	13.2	20.1	1 6	4 17.17	+15 37.4	1.622	2.453	15.2	20.2
353017	2009 BE ₁₇₀	12	4.8 272°46	5°2/ 6.4 17			10148	Shirase	12	4.9 208°29	0°1/ 4.9 18		
10 28	5 17.63	+35 40.4	1.842	2.616	16.3	21.3	10 28	5 11.32	+23 27.9	2.857	3.637	11.0	18.4
11 7	5 12.89	+36 9.2	1.757	2.613	13.4	21.1	11 7	5 6.58	+23 23.6	2.761	3.633	8.5	18.2
11 17	5 4.97	+36 25.7	1.691	2.610	10.0	20.9	11 17	5 0.06	+23 16.0	2.690	3.628	5.7	18.0
11 27	4 54.63	+36 25.6	1.651	2.607	6.7	20.7	11 27	4 52.27	+23 5.1	2.646	3.623	2.6	17.8
12 7	4 43.14	+36 6.4	1.637	2.604	5.2	20.6	12 7	4 43.89	+22 51.3	2.634	3.618	0.7	17.6
12 17	4 32.01	+35 29.2	1.651	2.601	7.1	20.7	12 17	4 35.66	+22 35.7	2.652	3.612	3.9	17.9
12 27	4 22.71	+34 39.1	1.692	2.598	10.4	20.9	12 27	4 28.37	+22 20.1	2.700	3.607	7.0	18.1
1 6	4 16.24	+33 43.1	1.757	2.595	13.8	21.1	1 6	4 22.60	+22 6.6	2.775	3.601	9.7	18.2
209329	2004 BQ ₁₁₀	12	4.8 214°85	2°5/ 4.1 18			351407	2005 FZ ₇	12	4.9 220°06	5°3/ 3.2 18		
10 28	5 13.94	+14 4.2	2.725	3.502	11.5	21.1	10 28	5 13.49	+ 6 25.7	2.445	3.219	12.8	21.4
11 7	5 8.62	+13 53.0	2.625	3.493	9.1	20.9	11 7	5 8.43	+ 5 49.1	2.352	3.209	10.4	21.3
11 17	5 1.43	+13 43.7	2.548	3.482	6.3	20.7	11 17	5 1.40	+ 5 18.2	2.281	3.199	7.8	21.1
11 27	4 52.88	+13 37.3	2.501	3.471	3.5	20.5	11 27	4 52.91	+ 4 56.4	2.238	3.187	5.8	20.9
12 7	4 43.64	+13 35.1	2.484	3.459	2.7	20.5	12 7	4 43.71	+ 4 46.4	2.224	3.175	5.5	20.9
12 17	4 34.52	+13 38.1	2.498	3.447	5.1	20.6	12 17	4 34.65	+ 4 49.7	2.239	3.163	7.3	21.0
12 27	4 26.31	+13 47.0	2.542	3.434	8.1	20.8	12 27	4 26.58	+ 5 6.8	2.283	3.149	9.9	21.1
1 6	4 19.66	+14 2.3	2.613	3.420	10.8	20.9	1 6	4 20.19	+ 5 36.8	2.351	3.135	12.5	21.3
346519	2008 UT ₁₆₆	12	4.8 128°15	1°5/ 4.4 18			79666	1998 SH ₃₄	12	4.9 151°24	12°9/ 8.3 18		
10 28	5 16.37	+19 31.0	1.877	2.672	15.3	21.5	10 28	5 35.18	+53 19.8	1.885	2.566	18.9	20.0
11 7	5 11.15	+19 10.8	1.803	2.683	11.9	21.3	11 7	5 28.60	+55 15.4	1.816	2.573	17.0	19.8
11 17	5 3.37	+18 48.6	1.751	2.693	7.9	21.1	11 17	5 16.76	+56 51.5	1.764	2.579	15.1	19.7
11 27	4 53.77	+18 25.5	1.725	2.702	3.7	20.9	11 27	5 0.41	+57 56.0	1.733	2.584	13.6	19.6
12 7	4 43.42	+18 3.1	1.729	2.711	1.9	20.8	12 7	4 41.60	+58 19.6	1.725	2.589	12.9	19.6
12 17	4 33.49	+17 43.7	1.762	2.720	5.8	21.1	12 17	4 23.20	+57 59.8	1.741	2.594	13.3	19.6
12 27	4 25.11	+17 29.7	1.822	2.728	9.8	21.3	12 27	4 8.04	+57 3.1	1.779	2.598	14.6	19.7
1 6	4 19.04	+17 23.1	1.908	2.736	13.3	21.6	1 6	3 57.83	+55 41.8	1.839	2.601	16.3	19.9
112210	2002 JZ ₁₃₃	12	4.8 206°67	3°0/ 5.6 18			346434	2008 SK ₂₅₃	12	4.9 262°49	0°9/ 5.0 18		
10 28	5 20.13	+29 43.3	1.650	2.440	17.3	20.8	10 28	5 17.18	+23 18.6	1.778	2.575	16.0	21.0
11 7	5 15.00	+30 1.4	1.564	2.436	13.8	20.6	11 7	5 12.49	+23 45.0	1.683	2.563	12.6	20.7
11 17	5 6.48	+30 10.7	1.499	2.433	9.7	20.3	11 17	5 4.77	+24 9.8	1.609	2.550	8.6	20.5
11 27	4 55.35	+30 7.6	1.458	2.429	5.4	20.1	11 27	4 54.64	+24 30.8	1.561	2.537	4.0	20.2
12 7	4 42.95	+29 50.4	1.444	2.424	3.1	19.9	12 7	4 43.22	+24 46.5	1.540	2.524	1.4	19.9
12 17	4 30.88	+29 20.6	1.459	2.419	6.6	20.1	12 17	4 31.87	+24 56.7	1.549	2.511	6.0	20.2
12 27	4 20.74	+28 43.1	1.501	2.414	11.0	20.4	12 27	4 22.05	+25 3.1	1.585	2.498	10.5	20.5
1 6	4 13.63	+28 4.1	1.566	2.408	15.1	20.6	1 6	4 14.84	+25 8.7	1.645	2.485	14.6	20.7
125928	2001 XE ₂₃₈	12	4.8 328°02	0°8/ 5.0 18			200101	1995 MJ ₇	12	4.9 292°22	4°0/ 3.4 18		
10 28	5 12.59	+24 57.4	1.372	2.193	18.5	19.3	10 28	5 9.78	+12 26.7	2.164	2.962	13.4	19.9
11 7	5 9.61	+24 55.2	1.287	2.181	14.7	19.1	11 7	5 5.72	+11 41.2	2.088	2.966	10.6	19.7
11 17	5 3.15	+24 46.1	1.222	2.169	10.0	18.8	11 17	4 59.63	+10 58.0	2.034	2.969	7.5	19.5
11 27	4 53.94	+24 29.2	1.179	2.158	4.7	18.4	11 27	4 52.11	+10 20.2	2.008	2.973	4.8	19.4
12 7	4 43.33	+24 4.7	1.163	2.147	1.4	18.2	12 7	4 43.97	+ 9 50.6	2.009	2.977	4.3	19.4
12 17	4 32.97	+23 35.2	1.172	2.137	6.9	18.5	12 17	4 36.13	+ 9 31.7	2.040	2.982	6.6	19.5
12 27	4 24.56	+23 5.6	1.206	2.128	12.2	18.8	12 27	4 29.44	+ 9 24.8	2.097	2.986	9.7	19.7
1 6	4 19.27	+22 40.8	1.261	2.120	16.9	19.0	1 6	4 24.56	+ 9 30.0	2.179	2.991	12.5	19.9
224899	2007 CS ₄₀	12	4.8 342°09	1°7/ 5.2 18			279632	2011 ES ₆₆	12	4.9 132°73	2°4/ 5.5 18		
10 28	5 13.36	+26 29.3	1.272	2.096	19.6	20.4	10 28	5 20.61	+28 55.1	1.984	2.760	15.2	21.8
11 7	5 10.44	+26 33.2	1.194	2.089	15.5	20.1	11 7	5 14.53	+29 11.9	1.909	2.774	12.0	21.6
11 17	5 3.80	+26 28.7	1.136	2.082	10.6	19.8	11 17	5 5.70	+29 21.1	1.857	2.788	8.3	21.4
11 27	4 54.25	+26 13.9	1.099	2.076	5.2	19.5	11 27	4 54.87	+29 20.3	1.831	2.802	4.5	21.2
12 7	4 43.26	+25 48.7	1.088	2.071	2.0	19.3	12 7	4 43.23	+29 8.7	1.834	2.814	2.5	21.1
12 17	4 32.66	+25 15.8	1.102	2.067	7.2	19.6	12 17	4 32.05	+28 47.5	1.867	2.826	5.5	21.4
12 27	4 24.23	+24 40.7	1.140	2.064	12.6	19.9	12 27	4 22.56	+28 20.6	1.929	2.837	9.2	21.6
1 6	4 19.17	+24 9.6	1.199	2.061	17.3	20.2	1 6	4 15.59	+27 52.6	2.016	2.848	12.6	21.8
143444	2003 BO ₇₄	12	4.8 327°65	0°5/ 4.8 17			174960	2004 DK ₃	12	4.9 112°22	1°4/ 5.2 18		
10 28	5 12.77	+19 24.3	1.614	2.427	16.6	19.5	10 28	5 13.46	+26 21.6	1.602	2.410	16.9	20.1
11 7	5 9.22	+19 48.0	1.523	2.413	13.1	19.2	11 7	5 9.64	+26 22.0	1.526	2.412	13.3	19.9
11 17	5 2.66	+20 13.5	1.453	2.399	8.8	18.9	11 17	5 2.78	+26 15.1	1.471	2.414	9.1	19.7
11 27	4 53.70	+20 40.1	1.407	2.385	4.0	18.6	11 27	4 53.67	+25 59.9	1.440	2.416	4.4	19.4
12 7	4 43.42	+21 6.9	1.388	2.372	1.3	18.4	12 7	4 43.56	+25 36.6	1.435	2.419	1.6	19.2
12 17	4 33.23	+21 33.3	1.397	2.360	6.3	18.7	12 17	4 33.85	+25 7.6	1.458	2.422	6.0	19.5
12 27	4 24.58	+22 0.0	1.432	2.349	11.1	18.9	12 27	4 25.93	+24 37.2	1.508	2.426	10.5	19.8
1 6	4 18.55	+22 28.4	1.490	2.338	15.3	19.2	1 6	4 20.73	+24 9.7	1.581	2.431	14.5	20.0
249393	2009 BR ₁₁₃	12	4.9 186°61	9°7/ 2.3 18			355075	2006 SJ ₂₆₄	12	4.9 119°53	4°0/ 6.2 18		
10 28	5 14.51	-10 42.5	2.594	3.304									

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
445370	2010 <i>PS</i> ₁₀	12	4.9	228°71	12°0/27.9	18							
10 28	5 13.92	-18 32.9	2.702	3.368	14.0	21.6							
11 7	5 8.69	-20 6.9	2.628	3.353	13.1	21.5							
11 17	5 1.56	-21 23.9	2.575	3.336	12.3	21.4							
11 27	4 53.02	-22 17.3	2.543	3.319	12.0	21.4							
12 7	4 43.79	-22 42.4	2.534	3.301	12.3	21.3							
12 17	4 34.68	-22 37.3	2.547	3.282	13.0	21.4							
12 27	4 26.51	-22 2.5	2.581	3.263	14.0	21.4							
1 6	4 19.93	-21 1.9	2.633	3.242	15.2	21.5							
449881	2015 <i>MG</i> ₈₂	12	4.9	214°88	0°1/ 4.8	18							
10 28	5 16.74	+24 15.9	1.917	2.709	15.1	21.8							
11 7	5 11.69	+23 49.6	1.826	2.704	11.9	21.6							
11 17	5 3.93	+23 16.5	1.757	2.698	8.0	21.3							
11 27	4 54.18	+22 36.8	1.714	2.691	3.6	21.1							
12 7	4 43.49	+21 52.1	1.700	2.685	1.0	20.9							
12 17	4 33.11	+21 5.7	1.716	2.677	5.6	21.2							
12 27	4 24.24	+20 21.9	1.760	2.670	9.9	21.4							
1 6	4 17.75	+19 44.7	1.829	2.661	13.6	21.6							
485975	2012 <i>JZ</i>	12	4.9	178°01	3°8/ 3.3	18							
10 28	5 10.15	+10 2.1	2.883	3.661	10.9	22.4							
11 7	5 5.50	+9 24.0	2.798	3.662	8.7	22.2							
11 17	4 59.27	+8 48.9	2.738	3.663	6.3	22.1							
11 27	4 51.93	+8 19.2	2.706	3.664	4.3	22.0							
12 7	4 44.11	+7 57.0	2.703	3.664	4.0	21.9							
12 17	4 36.49	+7 44.0	2.732	3.664	5.7	22.1							
12 27	4 29.72	+7 41.0	2.789	3.664	8.1	22.2							
1 6	4 24.33	+7 48.1	2.871	3.663	10.3	22.4							
167747	2004 <i>XF</i> ₃₆	12	4.9	323°57	0°2/ 4.9	18							
10 28	5 14.70	+24 24.4	1.646	2.452	16.6	19.7							
11 7	5 10.52	+24 7.9	1.564	2.449	13.1	19.5							
11 17	5 3.36	+23 44.7	1.502	2.446	8.8	19.2							
11 27	4 53.97	+23 14.8	1.466	2.444	4.0	18.9							
12 7	4 43.55	+22 39.5	1.457	2.441	1.1	18.7							
12 17	4 33.50	+22 2.0	1.476	2.439	6.1	19.1							
12 27	4 25.16	+21 26.6	1.521	2.437	10.7	19.3							
1 6	4 19.48	+20 57.4	1.590	2.435	14.7	19.6							
50105	2000 <i>AX</i> ₁₁₁	12	4.9	297°44	1°4/ 4.5	18							
10 28	5 14.63	+21 50.9	1.456	2.272	17.9	18.2							
11 7	5 10.87	+21 15.0	1.371	2.262	14.1	18.0							
11 17	5 3.82	+20 32.5	1.306	2.253	9.5	17.7							
11 27	4 54.26	+19 45.0	1.266	2.244	4.4	17.4							
12 7	4 43.47	+18 55.4	1.251	2.235	2.0	17.2							
12 17	4 33.00	+18 8.3	1.264	2.226	7.1	17.5							
12 27	4 24.38	+17 28.9	1.302	2.217	12.2	17.7							
1 6	4 18.68	+17 1.1	1.363	2.209	16.6	18.0							
292421	2006 <i>SB</i> ₃₀₅	12	4.9	77°14	3°1/ 4.1	18							
10 28	5 13.45	+14 56.4	1.872	2.673	15.1	20.7							
11 7	5 8.93	+14 33.8	1.798	2.679	11.8	20.5							
11 17	5 1.97	+14 13.1	1.745	2.685	8.1	20.3							
11 27	4 53.25	+13 56.2	1.719	2.692	4.4	20.1							
12 7	4 43.77	+13 45.3	1.721	2.698	3.4	20.1							
12 17	4 34.64	+13 41.9	1.752	2.704	6.5	20.3							
12 27	4 26.93	+13 47.5	1.809	2.711	10.2	20.5							
1 6	4 21.41	+14 2.2	1.891	2.717	13.5	20.7							
75122	1999 <i>VU</i> ₆₃	12	4.9	41°11	0°1/ 4.8	18							
10 28	5 16.35	+22 54.5	1.370	2.187	18.8	19.8							
11 7	5 12.27	+22 46.8	1.300	2.191	14.8	19.6							
11 17	5 4.74	+22 34.1	1.249	2.195	9.9	19.3							
11 27	4 54.64	+22 16.2	1.221	2.200	4.5	19.0							
12 7	4 43.40	+21 54.3	1.220	2.204	1.2	18.8							
12 17	4 32.67	+21 30.9	1.245	2.209	6.8	19.2							
12 27	4 24.02	+21 10.3	1.296	2.214	11.9	19.5							
1 6	4 18.47	+20 56.2	1.369	2.220	16.3	19.8							
165603	2001 <i>FM</i> ₅₇	12	4.9	317°76	3°8/ 4.5	18							
10 28	5 16.03	+11 4.2	1.731	2.529	16.3	19.8							
11 7	5 11.32	+11 17.1	1.648	2.525	13.0	19.6							
11 17	5 3.82	+11 38.1	1.586	2.522	9.1	19.3							
11 27	4 54.20	+12 8.6	1.549	2.519	5.3	19.1							
12 7	4 43.51	+12 48.7	1.540	2.515	4.0	19.0							
12 17	4 33.03	+13 37.6	1.559	2.512	7.1	19.2							
12 27	4 24.01	+14 34.1	1.607	2.510	11.1	19.4							
1 6	4 17.42	+15 36.3	1.678	2.507	14.8	19.6							
174182	2002 <i>PJ</i> ₁₃₆	12	4.9	357°84	9°8/ 8.0	18							
10 28	5 11.95	+42 18.8	1.240	2.036	21.6	18.4							
11 7	5 10.29	+43 10.2	1.170	2.030	18.4	18.1							
11 17	5 4.21	+43 39.6	1.117	2.026	14.8	17.9							
11 27	4 54.63	+43 38.3	1.083	2.023	11.5	17.7							
12 7	4 43.41	+43 1.4	1.070	2.023	9.9	17.6							
12 17	4 32.82	+41 50.8	1.081	2.024	11.0	17.7							
12 27	4 25.01	+40 16.0	1.115	2.026	14.1	17.9							
1 6	4 21.20	+38 30.2	1.169	2.031	17.7	18.1							
264818	2002 <i>PX</i> ₁₃₅	12	4.9	64°05	3°7/ 5.6	18							
10 28	5 21.65	+29 13.9	1.323	2.127	20.0	20.3							
11 7	5 16.53	+29 54.2	1.268	2.148	15.9	20.1							
11 17	5 7.59	+30 25.3	1.233	2.170	11.1	19.9							
11 27	4 55.89	+30 42.5	1.220	2.191	6.2	19.7							
12 7	4 43.12	+30 43.3	1.234	2.213	3.8	19.6							
12 17	4 31.18	+30 29.2	1.275	2.235	7.3	19.9							
12 27	4 21.75	+30 5.6	1.340	2.257	11.8	20.2							
1 6	4 15.82	+29 39.4	1.429	2.278	15.8	20.5							
443912	2002 <i>NF</i> ₂₁	12	4.9	124°48	0°2/ 4.9	18							
10 28	5 17.53	+24 13.9	2.364	3.141	13.1	22.4							
11 7	5 11.51	+24 0.2	2.292	3.161	10.2	22.3							
11 17	5 3.38	+23 41.8	2.243	3.180	6.8	22.1							
11 27	4 53.80	+23 18.5	2.222	3.199	3.1	21.9							
12 7	4 43.69	+22 51.4	2.232	3.217	0.8	21.7							
12 17	4 34.01	+22 22.3	2.273	3.234	4.5	22.0							
12 27	4 25.66	+21 54.2	2.344	3.250	7.9	22.3							
1 6	4 19.30	+21 29.8	2.442	3.266									

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
113862	2002 <i>TD</i> ₂₅₅	12 4.9 37°30'	4.8/ 5.6	17			158273	2001 <i>UP</i> ₂	12 4.9 42°52'	2.6/ 4.4	18		
10 28	5 18.15	+32 48.0	2.157	2.925	14.4	19.0	10 28	5 15.33	+17 32.1	1.269	2.094	19.5	19.0
11 7	5 12.90	+34 4.5	2.078	2.933	11.7	18.8	11 7	5 11.34	+17 13.2	1.215	2.110	15.2	18.8
11 17	5 4.87	+35 14.6	2.023	2.941	8.6	18.7	11 17	5 3.99	+16 55.0	1.180	2.128	10.2	18.6
11 27	4 54.70	+36 13.3	1.994	2.949	5.9	18.5	11 27	4 54.28	+16 39.4	1.168	2.145	5.0	18.3
12 7	4 43.44	+36 56.7	1.994	2.958	4.8	18.5	12 7	4 43.67	+16 28.6	1.182	2.164	3.0	18.2
12 17	4 32.35	+37 23.2	2.023	2.966	6.5	18.6	12 17	4 33.77	+16 24.6	1.222	2.183	7.5	18.6
12 27	4 22.72	+37 34.7	2.080	2.976	9.4	18.8	12 27	4 26.02	+16 29.4	1.287	2.202	12.3	18.9
1 6	4 15.51	+37 35.3	2.162	2.985	12.2	19.0	1 6	4 21.29	+16 43.6	1.373	2.222	16.3	19.2
328014	2007 <i>HD</i> ₈₉	12 4.9 44°19'	0.7/ 5.0	18			57150	2001 <i>QA</i> ₁	12 4.9 34°61'	5.0/ 6.3	18		
10 28	5 14.13	+22 49.4	2.080	2.873	14.1	20.5	10 28	5 17.41	+33 45.8	1.296	2.101	20.3	19.0
11 7	5 9.45	+23 16.6	2.002	2.879	11.0	20.3	11 7	5 13.60	+34 5.7	1.233	2.111	16.4	18.8
11 17	5 2.35	+23 42.0	1.946	2.886	7.4	20.1	11 17	5 5.87	+34 10.3	1.188	2.121	11.9	18.5
11 27	4 53.49	+24 4.3	1.916	2.893	3.4	19.9	11 27	4 55.23	+33 55.2	1.166	2.132	7.3	18.3
12 7	4 43.80	+24 22.5	1.916	2.900	1.1	19.7	12 7	4 43.41	+33 19.0	1.168	2.143	5.0	18.2
12 17	4 34.38	+24 36.5	1.945	2.907	5.0	20.0	12 17	4 32.35	+32 25.1	1.196	2.155	7.8	18.4
12 27	4 26.29	+24 47.8	2.003	2.915	8.7	20.2	12 27	4 23.81	+31 21.6	1.248	2.168	12.2	18.7
1 6	4 20.33	+24 58.2	2.086	2.922	12.0	20.5	1 6	4 18.81	+30 17.4	1.323	2.181	16.3	19.0
447540	2006 <i>SJ</i> ₂₅₃	12 4.9 11°75'	1.0/ 5.1	17			226534	2003 <i>UO</i> ₁₆₁	12 4.9 12°29'	0.7/ 4.7	17		
10 28	5 14.18	+24 51.9	1.740	2.543	16.0	21.4	10 28	5 11.22	+21 27.1	2.001	2.802	14.2	20.9
11 7	5 10.01	+24 59.7	1.661	2.544	12.6	21.2	11 7	5 7.23	+21 13.2	1.920	2.804	11.1	20.6
11 17	5 2.98	+25 2.5	1.603	2.545	8.5	20.9	11 17	5 0.88	+20 56.1	1.862	2.806	7.4	20.4
11 27	4 53.84	+24 59.2	1.569	2.546	4.0	20.7	11 27	4 52.84	+20 36.7	1.831	2.808	3.4	20.2
12 7	4 43.71	+24 49.7	1.564	2.548	1.3	20.5	12 7	4 44.04	+20 16.1	1.827	2.811	1.2	20.0
12 17	4 33.92	+24 35.4	1.586	2.550	5.7	20.8	12 17	4 35.54	+19 56.4	1.853	2.814	5.2	20.3
12 27	4 25.75	+24 19.4	1.636	2.552	10.0	21.1	12 27	4 28.37	+19 40.0	1.906	2.818	9.1	20.6
1 6	4 20.10	+24 5.2	1.710	2.555	13.8	21.3	1 6	4 23.29	+19 29.1	1.984	2.821	12.5	20.8
287058	2002 <i>RH</i>	12 4.9 123°38'	4.5/ 3.2	18			276933	2004 <i>TX</i> ₁₇₆	12 4.9 116°57'	0.9/ 4.6	18		
10 28	5 14.10	+12 4.6	2.086	2.877	14.1	21.1	10 28	5 17.74	+21 7.2	1.877	2.670	15.4	22.0
11 7	5 9.05	+11 4.4	2.016	2.889	11.2	20.9	11 7	5 12.25	+20 51.5	1.807	2.685	12.0	21.9
11 17	5 1.86	+10 6.4	1.969	2.900	8.0	20.7	11 17	5 4.17	+20 32.7	1.759	2.700	8.0	21.6
11 27	4 53.18	+9 14.2	1.949	2.912	5.2	20.6	11 27	4 54.28	+20 11.5	1.738	2.715	3.6	21.4
12 7	4 43.92	+8 31.6	1.958	2.923	4.8	20.6	12 7	4 43.68	+19 49.1	1.745	2.729	1.4	21.3
12 17	4 35.05	+8 1.4	1.996	2.933	7.1	20.8	12 17	4 33.56	+19 27.7	1.782	2.742	5.6	21.6
12 27	4 27.49	+7 45.3	2.062	2.943	10.2	21.0	12 27	4 25.03	+19 10.1	1.848	2.755	9.6	21.9
1 6	4 21.89	+7 43.4	2.152	2.953	13.0	21.2	1 6	4 18.87	+18 58.7	1.938	2.768	13.1	22.1
221446	2006 <i>AJ</i> ₇₂	12 4.9 330°41'	0.4/ 5.0	17			475336	2006 <i>AN</i> ₈₂	12 4.9 337°19'	6.8/ 7.1	16		
10 28	5 11.00	+24 28.5	1.786	2.593	15.5	20.5	10 28	5 13.68	+37 53.9	1.287	2.089	20.6	20.4
11 7	5 7.57	+24 19.9	1.694	2.580	12.2	20.2	11 7	5 11.31	+38 10.9	1.204	2.076	17.1	20.1
11 17	5 1.41	+24 5.5	1.623	2.568	8.3	20.0	11 17	5 4.78	+38 8.2	1.138	2.064	13.1	19.8
11 27	4 53.17	+23 45.1	1.578	2.556	3.8	19.7	11 27	4 54.94	+37 39.2	1.094	2.052	9.0	19.6
12 7	4 43.89	+23 19.5	1.560	2.545	1.0	19.5	12 7	4 43.46	+36 41.2	1.073	2.042	6.8	19.4
12 17	4 34.81	+22 50.9	1.570	2.534	5.7	19.8	12 17	4 32.45	+35 17.1	1.076	2.033	9.0	19.5
12 27	4 27.20	+22 23.0	1.607	2.524	10.1	20.0	12 27	4 23.93	+33 37.0	1.103	2.024	13.2	19.7
1 6	4 21.98	+21 59.4	1.668	2.515	14.0	20.2	1 6	4 19.18	+31 53.2	1.152	2.018	17.6	20.0
190864	2001 <i>SE</i> ₃₂₆	12 4.9 196°13'	3.2/ 4.1	18			247230	2001 <i>QU</i> ₂₀₄	12 4.9 77°77'	6.5/ 7.7	18		
10 28	5 15.63	+15 52.1	1.710	2.514	16.2	20.6	10 28	5 21.45	+41 22.7	1.936	2.683	16.5	21.0
11 7	5 10.99	+15 22.5	1.630	2.513	12.8	20.4	11 7	5 15.63	+41 46.8	1.870	2.702	13.8	20.8
11 17	5 3.57	+14 53.5	1.571	2.512	8.8	20.2	11 17	5 6.63	+41 54.1	1.824	2.721	10.7	20.7
11 27	4 54.09	+14 27.3	1.537	2.510	4.7	19.9	11 27	4 55.42	+41 39.9	1.802	2.740	7.9	20.5
12 7	4 43.66	+14 6.5	1.531	2.509	3.5	19.9	12 7	4 43.41	+41 2.6	1.807	2.759	6.5	20.5
12 17	4 33.55	+13 53.6	1.553	2.507	7.0	20.1	12 17	4 32.13	+40 4.5	1.840	2.778	7.6	20.6
12 27	4 25.01	+13 50.7	1.602	2.505	11.2	20.3	12 27	4 22.94	+38 52.1	1.901	2.796	10.1	20.8
1 6	4 18.92	+13 58.5	1.674	2.502	14.9	20.5	1 6	4 16.69	+37 33.6	1.986	2.815	12.8	21.0
418807	2008 <i>VL</i> ₂₆	12 4.9 205°85'	4.5/ 6.1	18			476591	2008 <i>SL</i> ₁₉	12 4.9 69°58'	2.5/ 5.6	16		
10 28	5 16.65	+36 6.5	2.702	3.450	12.3	21.0	10 28	5 19.91	+28 55.6	1.506	2.304	18.3	21.6
11 7	5 11.28	+36 57.6	2.609	3.447	10.1	20.8	11 7	5 14.64	+29 2.8	1.449	2.326	14.4	21.5
11 17	5 3.56	+37 40.9	2.539	3.445	7.7	20.7	11 17	5 6.06	+29 0.2	1.411	2.348	9.9	21.2
11 27	4 54.07	+38 12.6	2.496	3.442	5.5	20.5	11 27	4 55.18	+28 45.5	1.398	2.371	5.1	21.0
12 7	4 43.66	+38 30.2	2.482	3.439	4.6	20.5	12 7	4 43.48	+28 18.8	1.411	2.393	2.6	20.9
12 17	4 33.36	+38 33.1	2.498	3.436	5.8	20.5	12 17	4 32.55	+27 43.0	1.453	2.415	6.3	21.2
12 27	4 24.22	+38 23.4	2.542	3.433	8.1	20.7	12 27	4 23.80	+27 3.5	1.521	2.437	10.7	21.5
1 6	4 17.05	+38 4.9	2.613	3.429	10.5	20.8	1 6	4 18.09	+26 26.1	1.613	2.459	14.4	21.8
111447	2001 <i>XL</i> ₂₃₉	12 4.9 38°28'	0.6/ 5.0	18			237159	2008 <i>UO</i> ₁₁₂	12 4.9 2°94'	4.4/ 5.8	18		
10 28	5 13.89	+24 0.9	1.864	2.663	15.2	19.5	10 28	5 16.56	+30 57.0	1.471	2.273	18.4	20.7
11 7	5 9.52	+24 7.1	1.787	2.668	11.9	19.3	11 7	5 12.72	+31 38.9	1.395	2.273	14.9	20.4
11 17	5 2.52	+24 9.2	1.731	2.673	8.0	19.1	11 17	5 5.29	+32 11.8	1.338	2.273	10.7	20.2
11 27	4 53.60	+24 6.4	1.702	2.679	3.7	18.8	11 27	4 55.06	+32 31.1	1.305	2.273	6.4	20.0
12 7	4 43.82	+23 58.7	1.700	2.684	1.1	18.7	12 7	4 43.46	+32 33.5	1.298	2.274	4.4	19.8
12 17	4 34.38	+23 47.5	1.727	2.690	5.4	19.0	12 17	4 32.24	+32 19.4	1.317	2.275	7.4	20.0
12 27	4 26.46	+23 35.4	1.782	2.697	9.5	19.2	12 27	4 23.10	+31 53.4	1.361	2.277	11.7	20.3
1 6	4 20.88	+23 25.4	1.861	2.703	13.0	19.5	1 6	4 17.19	+31 22.2	1.428	2.279	15.7	20.5
275396	2011 <i>BO</i> ₂₇	12 4.9 224°27'	7.9/ 2.2	18			50269	2000 <i>BZ</i> ₃₄	12 4.9 154°79'	3.5/ 5.9	1		

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
453745	2011 <i>CK</i> ₁₀	12	4.9	318°26	2°6/ 4.3	17	305653	2009 <i>BW</i> ₅₇	12	4.9	148°27	6°5/ 7.5	18
10 28	5 11.13	+15 23.5	1.892	2.698	14.8	21.1	10 28	5 21.17	+41 10.7	2.005	2.750	16.1	20.4
11 7	5 7.47	+15 17.6	1.796	2.680	11.7	20.8	11 7	5 15.57	+41 37.1	1.923	2.754	13.5	20.2
11 17	5 1.28	+15 14.1	1.721	2.663	8.0	20.6	11 17	5 6.77	+41 47.6	1.861	2.758	10.6	20.0
11 27	4 53.15	+15 14.5	1.672	2.646	4.2	20.3	11 27	4 55.61	+41 37.3	1.824	2.761	7.9	19.9
12 7	4 43.98	+15 20.0	1.650	2.630	2.9	20.2	12 7	4 43.43	+41 3.7	1.813	2.765	6.5	19.8
12 17	4 34.88	+15 31.7	1.657	2.614	6.3	20.4	12 17	4 31.78	+40 8.4	1.831	2.768	7.6	19.9
12 27	4 27.03	+15 50.5	1.691	2.598	10.4	20.6	12 27	4 22.08	+38 57.2	1.876	2.771	10.3	20.0
1 6	4 21.32	+16 16.8	1.748	2.583	14.0	20.8	1 6	4 15.29	+37 38.3	1.946	2.773	13.1	20.2
393624	2004 <i>FV</i> ₃	12	4.9	306°42	21°6/23.3	17	311646	2006 <i>RG</i> ₃₂	12	4.9	44°97	3°6/ 3.9	18
10 28	5 11.87	-7 21.0	0.956	1.770	25.3	20.8	10 28	5 13.24	+16 5.2	1.573	2.387	16.9	20.4
11 7	5 9.76	-11 21.5	0.906	1.757	23.2	20.6	11 7	5 9.08	+15 17.3	1.515	2.404	13.2	20.2
11 17	5 3.67	-15 2.8	0.874	1.744	21.9	20.5	11 17	5 2.20	+14 29.6	1.478	2.421	9.0	20.0
11 27	4 54.44	-18 1.6	0.859	1.732	21.7	20.4	11 27	4 53.45	+13 45.9	1.465	2.438	5.0	19.8
12 7	4 43.63	-19 59.4	0.862	1.721	22.8	20.4	12 7	4 44.03	+13 9.5	1.479	2.456	3.9	19.8
12 17	4 33.19	-20 46.9	0.879	1.710	24.9	20.5	12 17	4 35.17	+12 43.9	1.521	2.474	7.3	20.0
12 27	4 25.01	-20 26.1	0.910	1.699	27.3	20.7	12 27	4 28.02	+12 31.1	1.589	2.493	11.2	20.3
1 6	4 20.39	-19 8.6	0.951	1.689	29.7	20.8	1 6	4 23.33	+12 31.4	1.680	2.512	14.7	20.5
388109	2005 <i>UG</i> ₃₇₀	12	4.9	286°64	3°6/ 3.8	18	46370	2001 <i>VY</i> ₄₃	12	4.9	127°18	0°2/ 4.9	18
10 28	5 13.82	+16 33.2	1.582	2.394	16.9	21.3	10 28	5 17.43	+21 50.9	1.664	2.466	16.7	19.0
11 7	5 10.01	+15 46.6	1.491	2.379	13.4	21.0	11 7	5 12.67	+22 9.4	1.585	2.468	13.1	18.7
11 17	5 3.20	+14 58.0	1.420	2.363	9.3	20.7	11 17	5 4.89	+22 26.5	1.527	2.469	8.8	18.5
11 27	4 54.07	+14 10.4	1.374	2.347	5.1	20.5	11 27	4 54.81	+22 40.8	1.494	2.471	4.0	18.2
12 7	4 43.74	+13 27.9	1.354	2.332	4.0	20.4	12 7	4 43.63	+22 51.4	1.488	2.473	1.1	18.0
12 17	4 33.58	+12 54.8	1.362	2.316	7.8	20.6	12 17	4 32.75	+22 58.8	1.512	2.474	6.0	18.3
12 27	4 25.00	+12 34.5	1.396	2.300	12.4	20.8	12 27	4 23.58	+23 4.9	1.562	2.476	10.6	18.6
1 6	4 19.03	+12 29.0	1.452	2.285	16.5	21.0	1 6	4 17.09	+23 12.2	1.636	2.478	14.5	18.9
411041	2009 <i>UF</i> ₁₄₅	12	4.9	103°75	0°2/ 4.8	18	250021	2002 <i>AH</i> ₂₀₁	12	4.9	41°56	0°7/ 5.1	18
10 28	5 13.50	+24 22.3	2.308	3.094	13.1	20.7	10 28	5 17.07	+25 42.6	1.057	1.891	22.1	19.5
11 7	5 8.56	+23 45.4	2.229	3.104	10.2	20.6	11 7	5 13.51	+25 24.6	1.006	1.905	17.3	19.2
11 17	5 1.53	+23 2.5	2.173	3.113	6.8	20.4	11 17	5 5.84	+24 56.8	0.972	1.921	11.6	19.0
11 27	4 53.07	+22 14.4	2.146	3.123	3.0	20.1	11 27	4 55.24	+24 18.8	0.959	1.938	5.3	18.7
12 7	4 44.06	+21 23.5	2.148	3.132	0.9	20.0	12 7	4 43.57	+23 33.3	0.970	1.955	1.4	18.5
12 17	4 35.42	+20 32.5	2.180	3.141	4.7	20.3	12 17	4 32.86	+22 45.4	1.006	1.973	7.5	18.9
12 27	4 28.06	+19 45.2	2.243	3.150	8.2	20.5	12 27	4 24.85	+22 2.1	1.066	1.991	13.1	19.3
1 6	4 22.60	+19 4.5	2.331	3.159	11.2	20.7	1 6	4 20.52	+21 28.7	1.146	2.010	17.8	19.6
305239	2007 <i>XY</i> ₂₉	12	4.9	30°02	3°1/ 4.4	18	460892	2014 <i>WF</i> ₁₆₈	12	4.9	293°78	3°9/ 3.4	17
10 28	5 13.40	+15 8.3	1.480	2.297	17.6	20.0	10 28	5 9.87	+12 9.0	2.361	3.154	12.6	21.9
11 7	5 9.53	+14 57.5	1.416	2.306	13.8	19.8	11 7	5 5.75	+11 24.9	2.276	3.150	10.0	21.7
11 17	5 2.71	+14 49.8	1.371	2.316	9.4	19.5	11 17	4 59.72	+10 42.7	2.214	3.147	7.1	21.5
11 27	4 53.75	+14 47.4	1.351	2.326	5.0	19.3	11 27	4 52.32	+10 5.3	2.179	3.143	4.6	21.4
12 7	4 43.88	+14 51.5	1.357	2.337	3.4	19.2	12 7	4 44.31	+9 35.6	2.173	3.140	4.1	21.3
12 17	4 34.47	+15 3.4	1.390	2.348	7.2	19.5	12 17	4 36.50	+9 15.8	2.196	3.137	6.3	21.5
12 27	4 26.84	+15 23.7	1.449	2.360	11.5	19.8	12 27	4 29.72	+9 7.4	2.247	3.134	9.2	21.7
1 6	4 21.85	+15 52.3	1.530	2.373	15.3	20.0	1 6	4 24.61	+9 10.6	2.323	3.130	12.0	21.8
196101	2002 <i>TD</i> ₁₂₇	12	4.9	15°42	2°4/ 5.8	17	41850	2000 <i>WF</i> ₈₇	12	4.9	105°94	2°7/ 5.7	18
10 28	5 12.47	+30 41.7	2.060	2.846	14.4	19.6	10 28	5 22.45	+29 28.8	1.578	2.367	18.0	19.1
11 7	5 8.30	+30 36.5	1.979	2.849	11.5	19.4	11 7	5 16.62	+29 38.5	1.513	2.385	14.2	18.9
11 17	5 1.65	+30 21.8	1.919	2.852	8.0	19.2	11 17	5 7.44	+29 38.4	1.469	2.403	9.9	18.7
11 27	4 53.22	+29 56.1	1.885	2.856	4.4	18.9	11 27	4 55.87	+29 25.5	1.449	2.421	5.2	18.5
12 7	4 44.03	+29 20.0	1.880	2.860	2.5	18.8	12 7	4 43.40	+28 59.5	1.457	2.437	2.8	18.3
12 17	4 35.21	+28 35.8	1.903	2.864	5.2	19.0	12 17	4 31.63	+28 22.9	1.493	2.454	6.3	18.6
12 27	4 27.84	+27 47.7	1.954	2.869	8.8	19.2	12 27	4 22.02	+27 41.3	1.556	2.470	10.7	18.9
1 6	4 22.68	+27 0.4	2.031	2.874	12.0	19.5	1 6	4 15.48	+27 0.8	1.644	2.485	14.5	19.2
136232	2003 <i>WH</i> ₁₁₉	12	4.9	35°76	3°2/ 5.3	18	480732	2016 <i>NM</i> ₃	12	4.9	79°52	5°0/ 4.2	18
10 28	5 18.59	+25 50.0	1.118	1.944	21.6	18.9	10 28	5 18.58	+11 38.7	1.393	2.202	18.9	20.7
11 7	5 14.87	+26 48.0	1.062	1.956	17.0	18.7	11 7	5 13.52	+11 13.5	1.337	2.220	15.0	20.5
11 17	5 6.95	+27 41.6	1.024	1.970	11.7	18.4	11 17	5 5.33	+10 54.8	1.300	2.238	10.5	20.3
11 27	4 55.84	+28 25.3	1.009	1.984	6.1	18.2	11 27	4 54.92	+10 45.8	1.288	2.256	6.3	20.1
12 7	4 43.33	+28 54.9	1.017	1.999	3.4	18.1	12 7	4 43.67	+10 48.8	1.301	2.274	5.2	20.1
12 17	4 31.52	+29 9.6	1.051	2.014	7.8	18.4	12 17	4 33.06	+11 4.9	1.342	2.292	8.4	20.3
12 27	4 22.36	+29 13.4	1.108	2.031	13.0	18.7	12 27	4 24.47	+11 33.7	1.408	2.309	12.5	20.6
1 6	4 17.03	+29 12.0	1.186	2.048	17.5	19.0	1 6	4 18.74	+12 13.7	1.496	2.326	16.2	20.9
384612	2011 <i>BQ</i> ₈₁	12	4.9	269°04	1°4/ 5.3	18	492186	2013 <i>QC</i> ₇₉	12	4.9	130°99	6°5/ 2.5	18
10 28	5 17.23	+27 34.1	1.509	2.313	18.0	20.9	10 28	5 9.84	+0 35.1	2.734	3.496	11.9	21.9
11 7	5 12.95	+27 18.6	1.425	2.308	14.3	20.7	11 7	5 5.33	-0 16.1	2.665	3.504	9.9	21.8
11 17	5 5.27	+26 52.9	1.361	2.302	9.8	20.4	11 17	4 59.24	-0 58.7	2.619	3.512	8.0	21.7
11 27	4 55.01	+26 15.6	1.321	2.297	4.8	20.1	11 27	4 52.06	-1 29.0	2.600	3.521	6.7	21.6
12 7	4 43.54	+25 27.7	1.308	2.292	1.7	19.9	12 7	4 44.42	-1 44.3	2.608	3.528	6.6	21.6
12 17	4 32.47	+24 32.9	1.323	2.287	6.5	20.2	12 17	4 37.02	-1 43.3	2.645	3.536	7.8	21.7
12 27	4 23.38	+23 37.6	1.364	2.282	11.5	20.5	12 27	4 30.52	-1 26.2	2.708	3.544	9.6	21.8
1 6	4 17.32	+22 48.0	1.428	2.277	15.8	20.7	1 6	4 25.44	-0 54.8	2.796	3.551	11.5	22.0
521324	2015 <i>KZ</i> ₁₇₁	12	4.9	163°23	2°2/ 5.7	18	262230	2006 <i>SL</i> ₂₈₀	12	4.9	49°16		

EPHEMERIDES

12 4.9

12 4.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
175165	2005 <i>EO</i> ₈₆	12	4.9 158°38	1.9°/ 5.3 18			514709	2006 <i>SP</i> ₂₂₁	12	4.9 8°53	2°6/ 5.4 18		
10 28	5 21.07	+26 39.5	1.728	2.516	16.7	20.7	10 28	5 13.58	+27 0.1	1.086	1.921	21.5	21.3
11 7	5 15.49	+27 0.0	1.648	2.522	13.2	20.5	11 7	5 11.19	+27 21.5	1.022	1.922	17.0	21.1
11 17	5 6.76	+27 14.7	1.590	2.527	9.1	20.2	11 17	5 4.66	+27 34.5	0.976	1.924	11.8	20.8
11 27	4 55.67	+27 20.9	1.558	2.532	4.6	20.0	11 27	4 54.93	+27 36.0	0.950	1.927	6.0	20.5
12 7	4 43.48	+27 17.2	1.553	2.536	2.1	19.8	12 7	4 43.70	+27 24.5	0.948	1.931	2.8	20.3
12 17	4 31.67	+27 4.7	1.578	2.539	6.0	20.1	12 17	4 33.05	+27 2.2	0.970	1.936	7.7	20.6
12 27	4 21.70	+26 46.9	1.630	2.542	10.4	20.3	12 27	4 24.93	+26 35.0	1.015	1.943	13.3	20.9
1 6	4 14.54	+26 28.3	1.707	2.544	14.2	20.6	1 6	4 20.56	+26 9.3	1.080	1.950	18.1	21.3
320026	2007 <i>DA</i> ₈₆	12	4.9 145°98	3°8/ 6.2 17			182544	2001 <i>TF</i> ₆₄	12	4.9 16°64	0°6/ 5.1 18		
10 28	5 16.31	+34 4.2	2.346	3.110	13.5	21.5	10 28	5 12.04	+24 39.9	1.464	2.282	17.7	19.8
11 7	5 11.13	+34 25.9	2.261	3.114	10.9	21.3	11 7	5 8.77	+24 35.5	1.396	2.288	13.9	19.6
11 17	5 3.51	+34 38.1	2.199	3.118	8.0	21.1	11 17	5 2.38	+24 25.0	1.349	2.295	9.3	19.4
11 27	4 54.10	+34 38.1	2.163	3.122	5.1	21.0	11 27	4 53.71	+24 7.8	1.325	2.303	4.3	19.1
12 7	4 43.89	+34 24.6	2.155	3.125	3.8	20.9	12 7	4 44.07	+23 45.0	1.327	2.311	1.2	18.9
12 17	4 33.99	+33 58.6	2.177	3.129	5.5	21.0	12 17	4 34.92	+23 19.2	1.356	2.321	6.2	19.3
12 27	4 25.46	+33 23.5	2.228	3.132	8.4	21.2	12 27	4 27.64	+22 54.3	1.411	2.332	10.9	19.6
1 6	4 19.11	+32 43.9	2.304	3.135	11.2	21.4	1 6	4 23.14	+22 34.3	1.488	2.343	14.9	19.8
42165	2001 <i>CQ</i> ₁₀	12	4.9 113°26	5°1/ 4.1 18			214659	2006 <i>SX</i> ₁₀₈	12	4.9 65°45	3°0/ 5.6 18		
10 28	5 16.72	+7 40.9	1.993	2.775	15.0	19.6	10 28	5 16.92	+29 18.1	1.844	2.632	15.8	20.9
11 7	5 11.22	+7 25.8	1.925	2.790	12.0	19.5	11 7	5 12.12	+29 49.0	1.769	2.641	12.6	20.7
11 17	5 3.42	+7 18.6	1.880	2.805	8.7	19.3	11 17	5 4.43	+30 12.8	1.716	2.649	8.8	20.5
11 27	4 54.00	+7 21.8	1.862	2.820	5.9	19.2	11 27	4 54.61	+30 26.5	1.688	2.658	4.9	20.3
12 7	4 43.94	+7 37.1	1.871	2.834	5.2	19.2	12 7	4 43.83	+30 28.3	1.688	2.666	3.0	20.2
12 17	4 34.25	+8 4.6	1.910	2.847	7.4	19.3	12 17	4 33.42	+30 19.1	1.716	2.675	5.9	20.4
12 27	4 25.95	+8 43.7	1.977	2.861	10.4	19.5	12 27	4 24.69	+30 1.9	1.772	2.684	9.7	20.6
1 6	4 19.74	+9 32.4	2.068	2.874	13.3	19.7	1 6	4 18.54	+29 41.5	1.852	2.693	13.1	20.9
523749	2014 <i>UR</i> ₂₂₄	12	4.9 347°94	0°0/ 4.7 18			445962	2013 <i>AW</i> ₁₀₄	12	4.9 301°86	7°2/ 7.2 17		
10 28	4 49.16	+20 49.8	38.861	39.640	0.9	21.6	10 28	5 18.76	+40 37.4	1.815	2.574	17.1	20.8
11 7	4 48.44	+20 47.8	38.765	39.638	0.7	21.6	11 7	5 14.29	+41 17.4	1.726	2.566	14.4	20.5
11 17	4 47.63	+20 45.8	38.697	39.637	0.5	21.5	11 17	5 6.32	+41 42.1	1.657	2.558	11.4	20.3
11 27	4 46.75	+20 43.6	38.658	39.635	0.2	21.5	11 27	4 55.61	+41 45.5	1.610	2.550	8.6	20.2
12 7	4 45.84	+20 41.5	38.649	39.633	0.1	21.5	12 7	4 43.55	+41 23.7	1.590	2.542	7.2	20.1
12 17	4 44.95	+20 39.5	38.671	39.631	0.3	21.5	12 17	4 31.82	+40 37.1	1.596	2.534	8.5	20.1
12 27	4 44.09	+20 37.6	38.724	39.630	0.6	21.5	12 27	4 22.09	+39 31.6	1.628	2.526	11.3	20.3
1 6	4 43.32	+20 35.9	38.804	39.628	0.8	21.6	1 6	4 15.49	+38 15.8	1.684	2.519	14.5	20.5
334669	2002 <i>YE</i> ₁₇	12	4.9 322°09	2°1/ 5.4 18			57072	2001 <i>OZ</i> ₁₀	12	4.9 37°91	0°5/ 4.8 18		
10 28	5 12.84	+27 47.2	1.283	2.106	19.5	20.3	10 28	5 14.98	+20 20.3	1.786	2.588	15.7	19.2
11 7	5 10.34	+27 46.3	1.195	2.088	15.6	20.0	11 7	5 10.51	+20 33.7	1.708	2.592	12.3	19.0
11 17	5 4.06	+27 35.0	1.125	2.071	10.9	19.7	11 17	5 3.32	+20 46.5	1.652	2.596	8.2	18.7
11 27	4 54.70	+27 11.0	1.078	2.054	5.5	19.4	11 27	4 54.11	+20 58.3	1.622	2.600	3.7	18.5
12 7	4 43.69	+26 33.9	1.055	2.038	2.3	19.1	12 7	4 43.96	+21 8.8	1.620	2.604	1.1	18.3
12 17	4 32.88	+25 46.9	1.057	2.023	7.4	19.4	12 17	4 34.11	+21 18.4	1.646	2.609	5.7	18.6
12 27	4 24.16	+24 56.5	1.084	2.009	12.9	19.6	12 27	4 25.79	+21 28.7	1.700	2.614	9.9	18.9
1 6	4 18.85	+24 10.1	1.131	1.996	17.9	19.9	1 6	4 19.88	+21 41.3	1.778	2.619	13.6	19.1
125963	2001 <i>YO</i> ₇	12	4.9 209°86	0°3/ 4.9 18			231209	2005 <i>WD</i> ₃₂	12	4.9 258°87	0°5/ 5.0 18		
10 28	5 17.14	+21 0.6	1.747	2.546	16.1	20.2	10 28	5 16.93	+23 41.7	1.784	2.580	15.9	21.4
11 7	5 12.35	+21 11.7	1.663	2.544	12.6	20.0	11 7	5 12.35	+23 46.4	1.686	2.566	12.6	21.1
11 17	5 4.65	+21 21.6	1.600	2.542	8.5	19.7	11 17	5 4.79	+23 47.0	1.610	2.552	8.6	20.9
11 27	4 54.73	+21 29.5	1.563	2.540	3.9	19.5	11 27	4 54.89	+23 42.6	1.560	2.537	4.0	20.6
12 7	4 43.72	+21 35.3	1.553	2.538	1.1	19.2	12 7	4 43.74	+23 32.8	1.537	2.522	1.1	20.3
12 17	4 32.96	+21 39.4	1.573	2.535	5.9	19.6	12 17	4 32.70	+23 18.8	1.544	2.506	5.9	20.6
12 27	4 23.79	+21 43.8	1.620	2.532	10.4	19.8	12 27	4 23.17	+23 3.8	1.577	2.491	10.5	20.8
1 6	4 17.18	+21 50.9	1.691	2.529	14.3	20.1	1 6	4 16.22	+22 51.2	1.635	2.475	14.6	21.1
364296	2006 <i>TJ</i> ₁₂₅	12	4.9 332°82	1°9/ 4.4 18			182004	1999 <i>XK</i> ₁₇	12	4.9 13°13	17°5/ 9.4 17		
10 28	5 11.23	+19 44.7	1.654	2.469	16.2	20.8	10 28	5 24.71	-14 30.2	0.907	1.682	29.2	19.1
11 7	5 7.85	+19 13.4	1.568	2.459	12.7	20.6	11 7	5 20.02	-14 24.0	0.852	1.683	26.1	18.9
11 17	5 1.68	+18 38.8	1.503	2.449	8.6	20.3	11 17	5 10.68	-13 29.6	0.809	1.686	22.6	18.7
11 27	4 53.40	+18 2.5	1.463	2.441	4.1	20.0	11 27	4 57.70	-11 33.4	0.782	1.690	19.3	18.5
12 7	4 44.09	+17 27.4	1.450	2.432	2.3	19.9	12 7	4 43.03	-8 31.6	0.774	1.695	17.6	18.4
12 17	4 35.04	+16 56.6	1.465	2.425	6.6	20.1	12 17	4 29.04	-4 34.2	0.788	1.701	18.2	18.5
12 27	4 27.52	+16 33.7	1.505	2.418	11.0	20.4	12 27	4 17.97	-0 2.8	0.825	1.708	21.0	18.7
1 6	4 22.45	+16 21.0	1.569	2.411	15.0	20.6	1 6	4 11.16	+4 37.5	0.883	1.717	24.4	18.9
473701	2015 <i>YT</i> ₆	12	4.9 281°05	5°8/ 3.7 17			162346	1999 <i>XX</i> ₁₆₇	12	4.9 2°74	3°7/ 6.1 18		
10 28	5 11.94	+4 0.6	2.334	3.109	13.3	20.9	10 28	5 11.97	+31 47.4	1.290	2.108	19.7	18.7
11 7	5 7.44	+3 43.2	2.244	3.100	10.9	20.7	11 7	5 9.46	+31 48.8	1.218	2.106	15.8	18.4
11 17	5 0.93	+3 34.9	2.177	3.090	8.4	20.5	11 17	5 3.24	+31 35.8	1.166	2.106	11.2	18.1
11 27	4 52.94	+3 38.7	2.135	3.081	6.3	20.4	11 27	4 54.22	+31 5.4	1.135	2.106	6.4	17.9
12 7	4 44.22	+3 56.6	2.122	3.071	5.9	20.3	12 7	4 43.95	+30 17.6	1.129	2.109	3.8	17.7
12 17	4 35.63	+4 29.2	2.138	3.062	7.6	20.4	12 17	4 34.24	+29 16.6	1.148	2.112	7.2	18.0
12 27	4 28.05	+5 15.8	2.181	3.052	10.2	20.6	12 27	4 26.78	+28 10.0	1.191	2.117	12.0	18.2
1 6	4 22.16	+6 14.2	2.249	3.043	12.7	20.7	1 6	4 22.62	+27 6.1	1.257	2.122	16.4	18.5
15119	2000 <i>DU</i> ₉₇	12	4.9 42°62	8°0/ 7.7 18			200457	2000 <i>WM</i> ₉₈	12	4.9 349			

EPHEMERIDES

12 4.9

12 4.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
197150	2003 <i>US</i> ₂₆₅	12 4.9 69°33'	1.8°/ 4.1 18				113060	2002 <i>RE</i> ₅₇	12 4.9 170°31'	0°1'/ 4.9 18			
10 28	5 13.17	+20 20.4	2.201	2.993	13.4	19.5	10 28	5 12.01	+23 5.3	2.777	3.557	11.2	19.9
11 7	5 8.28	+19 23.1	2.133	3.012	10.4	19.3	11 7	5 7.21	+22 51.8	2.688	3.559	8.7	19.7
11 17	5 1.35	+18 22.1	2.089	3.030	6.9	19.1	11 17	5 0.63	+22 34.8	2.623	3.561	5.8	19.5
11 27	4 53.05	+17 19.8	2.073	3.048	3.4	18.9	11 27	4 52.79	+22 14.5	2.587	3.563	2.6	19.3
12 7	4 44.29	+16 19.5	2.086	3.067	2.2	18.9	12 7	4 44.40	+21 51.9	2.580	3.565	0.7	19.1
12 17	4 35.98	+15 24.7	2.130	3.085	5.3	19.1	12 17	4 36.22	+21 28.3	2.605	3.566	4.0	19.4
12 27	4 28.97	+14 38.6	2.202	3.103	8.7	19.4	12 27	4 29.02	+21 6.0	2.660	3.567	7.1	19.6
1 6	4 23.86	+14 3.3	2.301	3.121	11.6	19.6	1 6	4 23.39	+20 46.8	2.742	3.567	9.8	19.8
62063	2000 <i>RA</i> ₇₂	12 4.9 110°70'	3°9/ 5.9 18				416755	2005 <i>EB</i> ₁₄₁	12 4.9 319°50'	3°7/ 6.3 18			
10 28	5 24.30	+31 5.0	1.578	2.361	18.2	19.6	10 28	5 13.05	+33 39.9	2.022	2.802	14.9	20.4
11 7	5 18.25	+31 37.2	1.512	2.379	14.6	19.4	11 7	5 9.17	+33 45.8	1.923	2.786	12.1	20.2
11 17	5 8.69	+31 59.5	1.467	2.397	10.3	19.2	11 17	5 2.56	+33 40.4	1.845	2.771	8.8	19.9
11 27	4 56.56	+32 7.1	1.447	2.414	6.0	19.0	11 27	4 53.85	+33 21.1	1.792	2.756	5.4	19.7
12 7	4 43.38	+31 58.0	1.454	2.431	3.9	18.9	12 7	4 44.11	+32 46.9	1.767	2.741	3.7	19.6
12 17	4 30.88	+31 33.7	1.489	2.447	6.8	19.1	12 17	4 34.57	+31 59.5	1.770	2.727	5.9	19.7
12 27	4 20.63	+30 59.6	1.552	2.462	10.9	19.4	12 27	4 26.49	+31 3.5	1.800	2.713	9.5	19.9
1 6	4 13.60	+30 22.6	1.638	2.477	14.6	19.7	1 6	4 20.81	+30 4.7	1.856	2.700	12.9	20.1
287144	2002 <i>RL</i> ₂₂₀	12 4.9 109°15'	3°4/ 4.1 18				275657	2000 <i>KS</i> ₁₁	12 4.9 163°81'	0°6/ 5.1 18			
10 28	5 14.82	+13 45.7	1.931	2.726	14.9	21.0	10 28	5 19.01	+24 8.2	2.012	2.796	14.8	22.2
11 7	5 9.97	+13 23.6	1.858	2.736	11.7	20.8	11 7	5 13.38	+24 13.5	1.929	2.802	11.6	22.0
11 17	5 2.72	+13 4.2	1.808	2.745	8.1	20.6	11 17	5 5.12	+24 14.7	1.869	2.807	7.8	21.8
11 27	4 53.78	+12 49.8	1.784	2.754	4.6	20.5	11 27	4 54.93	+24 10.5	1.835	2.811	3.6	21.5
12 7	4 44.11	+12 42.2	1.788	2.763	3.6	20.4	12 7	4 43.86	+24 0.9	1.830	2.815	1.0	21.3
12 17	4 34.80	+12 42.9	1.821	2.772	6.5	20.6	12 17	4 33.11	+23 47.2	1.856	2.818	5.2	21.6
12 27	4 26.89	+12 52.8	1.882	2.780	10.0	20.8	12 27	4 23.86	+23 32.1	1.910	2.820	9.2	21.9
1 6	4 21.11	+13 11.9	1.967	2.788	13.3	21.1	1 6	4 16.94	+23 18.9	1.990	2.822	12.7	22.1
355366	2007 <i>TO</i> ₂₇₂	12 4.9 349°38'	4°5/ 5.4 18				398121	2010 <i>AF</i> ₇₀	12 4.9 350°57'	4°9/ 5.9 18			
10 28	5 18.98	+29 24.9	1.651	2.443	17.2	20.2	10 28	5 15.59	+31 33.3	1.332	2.142	19.6	20.1
11 7	5 14.45	+30 39.5	1.569	2.440	13.8	20.0	11 7	5 12.46	+32 16.2	1.256	2.138	15.9	19.8
11 17	5 6.49	+31 50.3	1.507	2.438	10.0	19.8	11 17	5 5.45	+32 49.1	1.198	2.134	11.5	19.5
11 27	4 55.77	+32 51.2	1.471	2.436	6.1	19.5	11 27	4 55.36	+33 6.5	1.163	2.131	7.1	19.3
12 7	4 43.56	+33 37.2	1.461	2.435	4.6	19.5	12 7	4 43.72	+33 4.9	1.152	2.128	5.0	19.2
12 17	4 31.47	+34 5.9	1.480	2.434	7.3	19.6	12 17	4 32.42	+32 44.8	1.167	2.126	8.0	19.3
12 27	4 21.20	+34 19.1	1.525	2.433	11.2	19.8	12 27	4 23.39	+32 11.3	1.206	2.126	12.5	19.6
1 6	4 13.94	+34 21.8	1.593	2.433	14.9	20.1	1 6	4 17.86	+31 32.4	1.267	2.126	16.8	19.8
95416	2002 <i>CN</i> ₂₂₁	12 4.9 296°35'	1°3/ 4.6 17				126078	2001 <i>YL</i> ₈₇	12 4.9 288°70'	3°0/ 4.1 18			
10 28	5 12.46	+19 14.1	2.053	2.851	14.0	19.9	10 28	5 13.82	+17 20.6	1.643	2.453	16.5	19.5
11 7	5 8.29	+19 5.6	1.961	2.843	11.0	19.7	11 7	5 10.00	+16 42.6	1.549	2.436	13.1	19.2
11 17	5 1.74	+18 56.1	1.892	2.834	7.4	19.5	11 17	5 3.26	+16 2.6	1.476	2.419	9.0	19.0
11 27	4 53.41	+18 46.3	1.849	2.826	3.5	19.2	11 27	4 54.24	+15 23.0	1.428	2.402	4.7	18.7
12 7	4 44.20	+18 37.0	1.835	2.818	1.7	19.1	12 7	4 44.03	+14 47.0	1.406	2.385	3.4	18.6
12 17	4 35.16	+18 29.9	1.849	2.809	5.4	19.3	12 17	4 33.95	+14 18.3	1.413	2.369	7.3	18.8
12 27	4 27.36	+18 26.6	1.892	2.801	9.3	19.5	12 27	4 25.39	+14 0.3	1.445	2.352	11.9	19.0
1 6	4 21.60	+18 29.0	1.959	2.793	12.8	19.7	1 6	4 19.36	+13 54.8	1.501	2.335	15.9	19.2
110680	2001 <i>TB</i> ₁₉₉	12 4.9 0°14'	6°1/ 3.8 18				242282	2003 <i>UT</i> ₁₂₆	12 4.9 189°78'	0°5/ 5.1 18			
10 28	5 11.05	+ 8 33.9	1.559	2.371	17.1	19.0	10 28	5 16.45	+25 48.1	2.095	2.880	14.3	20.5
11 7	5 7.66	+ 8 2.6	1.487	2.369	13.8	18.8	11 7	5 11.31	+25 26.6	2.006	2.879	11.2	20.3
11 17	5 1.52	+ 7 39.3	1.434	2.368	10.2	18.6	11 17	5 3.69	+24 58.0	1.940	2.878	7.6	20.1
11 27	4 53.35	+ 7 28.3	1.406	2.367	7.0	18.4	11 27	4 54.27	+24 22.2	1.900	2.877	3.5	19.8
12 7	4 44.23	+ 7 32.9	1.403	2.368	6.3	18.4	12 7	4 44.05	+23 40.4	1.890	2.875	0.9	19.6
12 17	4 35.42	+ 7 54.4	1.427	2.369	8.8	18.5	12 17	4 34.15	+22 55.4	1.910	2.872	5.1	19.9
12 27	4 28.15	+ 8 32.1	1.475	2.371	12.5	18.8	12 27	4 25.67	+22 11.2	1.959	2.870	9.0	20.2
1 6	4 23.30	+ 9 23.7	1.546	2.374	15.9	19.0	1 6	4 19.38	+21 31.6	2.034	2.867	12.4	20.4
168609	2000 <i>AO</i> ₁₈₁	12 4.9 345°45'	3°5/ 6.4 18				181509	2006 <i>UJ</i> ₅₂	12 4.9 193°15'	0°8/ 4.7 18			
10 28	5 10.53	+34 4.5	1.261	2.078	20.1	19.1	10 28	5 14.42	+20 29.5	2.039	2.833	14.3	21.2
11 7	5 8.57	+33 27.7	1.177	2.064	16.3	18.8	11 7	5 9.77	+20 23.2	1.953	2.833	11.2	21.0
11 17	5 2.79	+32 28.8	1.112	2.052	11.7	18.5	11 17	5 2.70	+20 15.0	1.891	2.832	7.5	20.8
11 27	4 54.09	+31 5.6	1.069	2.041	6.6	18.2	11 27	4 53.85	+20 5.2	1.854	2.831	3.4	20.5
12 7	4 44.04	+29 20.4	1.050	2.032	3.5	18.0	12 7	4 44.17	+19 54.6	1.847	2.831	1.3	20.4
12 17	4 34.51	+27 21.1	1.057	2.024	7.3	18.2	12 17	4 34.73	+19 44.7	1.869	2.830	5.3	20.7
12 27	4 27.26	+25 19.6	1.089	2.017	12.6	18.5	12 27	4 26.62	+19 37.6	1.919	2.828	9.2	20.9
1 6	4 23.41	+23 27.7	1.143	2.013	17.4	18.7	1 6	4 20.63	+19 35.1	1.994	2.827	12.6	21.1
338289	2002 <i>UD</i> ₁₇	12 4.9 13°29'	12°5/28.5 17				253443	2003 <i>RX</i> ₃	12 4.9 54°12'	0°6/ 4.8 18			
10 28	5 16.94	+14 58.6	0.858	1.709	24.4	19.5	10 28	5 17.66	+21 49.2	1.257	2.078	19.9	20.6
11 7	5 13.78	+10 40.9	0.804	1.710	19.7	19.2	11 7	5 13.55	+21 41.8	1.194	2.088	15.6	20.3
11 17	5 6.24	+ 6 7.5	0.770	1.712	15.1	18.9	11 17	5 5.80	+21 30.6	1.150	2.097	10.5	20.1
11 27	4 55.56	+ 1 43.1	0.759	1.714	12.5	18.8	11 27	4 55.36	+21 15.7	1.129	2.107	4.7	19.8
12 7	4 43.70	- 2 4.1	0.773	1.718	13.9	18.9	12 7	4 43.79	+20 58.1	1.133	2.118	1.4	19.6
12 17	4 32.83	- 4 53.4	0.809	1.722	17.9	19.2	12 17	4 32.85	+20 40.7	1.164	2.128	7.1	20.0
12 27	4 24.80	- 6 37.8	0.864	1.727	22.3	19.4	12 27	4 24.18	+20 27.2	1.219	2.139	12.4	20.3
1 6	4 20.61	- 7 23.7	0.934	1.733	26.0	19.7	1 6	4 18.78	+20 20.7	1.296	2.150	16.8	20.6
518709	2009 <i>BT</i> ₁₂₂	12 4.9 265°28'	3°1/ 4.1 18				487862	2015 <i>TU</i> ₁₁₃	12 4.9 83°8				

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
399572	2003 <i>SP</i> ₂₁₀	12 4.9 69°64'	6°3'/ 2.9 18				448023	2008 <i>EV</i> ₂₅	12 4.9 264°73'	4°0'/ 3.7 17			
10 28	5 13.49	+ 5 28.2	2.180	2.959	13.9	21.0	10 28	5 12.88	+12 29.0	2.124	2.917	13.8	22.0
11 7	5 8.34	+ 4 21.8	2.134	2.992	11.3	20.9	11 7	5 8.52	+11 52.4	2.026	2.900	11.0	21.7
11 17	5 1.30	+ 3 23.3	2.111	3.024	8.6	20.8	11 17	5 1.88	+11 17.7	1.950	2.884	7.9	21.5
11 27	4 53.04	+ 2 37.0	2.114	3.056	6.7	20.8	11 27	4 53.52	+10 47.8	1.900	2.867	4.9	21.3
12 7	4 44.42	+ 2 6.2	2.146	3.087	6.5	20.8	12 7	4 44.27	+10 25.5	1.879	2.849	4.3	21.2
12 17	4 36.28	+ 1 52.5	2.206	3.119	8.0	21.0	12 17	4 35.12	+10 13.2	1.888	2.832	6.9	21.4
12 27	4 29.41	+ 1 55.9	2.293	3.150	10.3	21.2	12 27	4 27.09	+10 12.7	1.923	2.814	10.3	21.5
1 6	4 24.33	+ 2 14.4	2.403	3.180	12.5	21.4	1 6	4 20.98	+10 24.0	1.984	2.796	13.5	21.7
216680	2004 <i>EC</i> ₁₇	12 4.9 187°76'	6°6'/ 2.7 18				444596	2006 <i>UD</i> ₁₂₉	12 4.9 326°13'	1°9'/ 5.4 18			
10 28	5 12.62	+ 1 47.0	2.534	3.297	12.6	21.0	10 28	5 15.34	+26 56.3	1.895	2.687	15.3	21.4
11 7	5 7.72	+ 0 57.3	2.453	3.296	10.5	20.8	11 7	5 10.89	+27 15.1	1.809	2.685	12.1	21.2
11 17	5 1.00	+ 0 15.8	2.396	3.295	8.4	20.7	11 17	5 3.68	+27 28.3	1.745	2.683	8.3	20.9
11 27	4 52.99	- 0 13.4	2.365	3.293	6.9	20.6	11 27	4 54.37	+27 34.0	1.707	2.681	4.3	20.7
12 7	4 44.40	- 0 27.5	2.363	3.291	6.8	20.6	12 7	4 44.06	+27 31.1	1.697	2.679	2.0	20.5
12 17	4 36.01	- 0 24.7	2.389	3.288	8.2	20.6	12 17	4 34.00	+27 20.4	1.716	2.678	5.5	20.8
12 27	4 28.59	- 0 5.2	2.442	3.285	10.2	20.8	12 27	4 25.44	+27 4.9	1.762	2.676	9.6	21.0
1 6	4 22.75	+ 0 29.4	2.519	3.281	12.4	20.9	1 6	4 19.31	+26 48.4	1.833	2.675	13.2	21.2
195628	2002 <i>LA</i> ₆₂	12 4.9 151°19'	1°4'/ 5.6 18				99939	2003 <i>US</i> ₁₄₉	12 4.9 94°53'	2°2'/ 4.3 18			
10 28	5 13.62	+28 47.4	2.482	3.258	12.5	20.3	10 28	5 11.74	+16 30.1	2.313	3.106	12.8	19.5
11 7	5 8.74	+28 32.6	2.395	3.261	9.9	20.1	11 7	5 7.29	+16 11.2	2.232	3.110	10.0	19.4
11 17	5 1.79	+28 10.1	2.331	3.264	6.8	19.9	11 17	5 0.84	+15 52.6	2.175	3.114	6.8	19.2
11 27	4 53.36	+27 39.5	2.294	3.267	3.4	19.7	11 27	4 52.96	+15 36.0	2.145	3.119	3.5	19.0
12 7	4 44.32	+27 1.6	2.287	3.269	1.5	19.6	12 7	4 44.45	+15 22.6	2.144	3.123	2.4	18.9
12 17	4 35.57	+26 18.4	2.310	3.271	4.4	19.8	12 17	4 36.19	+15 14.1	2.173	3.127	5.3	19.1
12 27	4 28.02	+25 33.4	2.363	3.274	7.7	20.0	12 27	4 29.04	+15 11.8	2.230	3.132	8.5	19.3
1 6	4 22.34	+24 50.1	2.443	3.276	10.6	20.2	1 6	4 23.67	+15 16.5	2.313	3.136	11.5	19.5
335268	2005 <i>NZ</i> ₉	12 4.9 156°49'	1°2'/ 4.6 18				97721	2000 <i>GU</i> ₁₁₅	12 4.9 323°59'	0°9'/ 4.7 18			
10 28	5 19.15	+19 55.8	1.958	2.745	15.0	22.8	10 28	5 11.30	+20 18.1	2.087	2.886	13.8	19.0
11 7	5 13.41	+19 41.6	1.878	2.753	11.7	22.6	11 7	5 7.39	+20 11.3	1.995	2.877	10.8	18.8
11 17	5 5.09	+19 25.3	1.822	2.761	7.9	22.4	11 17	5 1.17	+20 2.8	1.926	2.869	7.3	18.5
11 27	4 54.91	+19 7.5	1.792	2.768	3.7	22.1	11 27	4 53.21	+19 53.0	1.883	2.861	3.4	18.3
12 7	4 43.92	+18 49.4	1.791	2.774	1.6	22.0	12 7	4 44.40	+19 42.9	1.869	2.853	1.3	18.1
12 17	4 33.31	+18 32.8	1.821	2.780	5.6	22.3	12 17	4 35.76	+19 33.9	1.884	2.845	5.2	18.4
12 27	4 24.20	+18 20.2	1.879	2.784	9.6	22.5	12 27	4 28.33	+19 27.9	1.927	2.838	9.1	18.6
1 6	4 17.41	+18 13.8	1.962	2.788	13.1	22.8	1 6	4 22.89	+19 26.7	1.994	2.831	12.5	18.8
269252	Bogdanstupka	12 4.9 20°56'	13°2'/30.6 18				394247	2006 <i>TQ</i> ₇₇	12 4.9 108°77'	3°1'/ 3.9 18			
10 28	5 9.50	-14 3.4	2.043	2.767	16.5	19.5	10 28	5 14.89	+15 4.2	2.174	2.963	13.7	21.5
11 7	5 5.73	-15 40.1	1.993	2.771	15.0	19.4	11 7	5 9.66	+14 22.3	2.106	2.981	10.7	21.4
11 17	4 59.85	-16 56.1	1.963	2.776	13.8	19.4	11 17	5 2.34	+13 41.2	2.062	2.998	7.3	21.2
11 27	4 52.50	-17 44.0	1.953	2.781	13.2	19.3	11 27	4 53.60	+13 3.3	2.046	3.016	4.2	21.0
12 7	4 44.55	-17 59.3	1.965	2.787	13.3	19.4	12 7	4 44.33	+12 31.2	2.058	3.032	3.4	21.0
12 17	4 36.90	-17 40.6	1.998	2.793	14.1	19.4	12 17	4 35.47	+12 7.1	2.101	3.049	6.0	21.2
12 27	4 30.48	-16 50.1	2.052	2.800	15.3	19.5	12 27	4 27.91	+11 52.9	2.172	3.065	9.2	21.4
1 6	4 25.93	-15 33.2	2.124	2.807	16.7	19.7	1 6	4 22.26	+11 49.1	2.268	3.080	12.0	21.6
139288	2001 <i>JT</i> ₁₀	12 4.9 130°16'	5°7'/ 3.5 18				134271	2006 <i>BO</i> ₁₃₉	12 4.9 152°96'	3°2'/ 6.2 17			
10 28	5 14.88	+ 4 54.2	2.375	3.144	13.2	20.8	10 28	5 15.15	+33 11.6	2.616	3.377	12.3	21.1
11 7	5 9.45	+ 4 19.9	2.307	3.160	10.7	20.7	11 7	5 10.00	+33 28.5	2.529	3.381	9.9	20.9
11 17	5 2.11	+ 3 53.4	2.262	3.175	8.2	20.6	11 17	5 2.70	+33 37.2	2.465	3.385	7.2	20.7
11 27	4 53.47	+ 3 37.9	2.245	3.189	6.1	20.5	11 27	4 53.83	+33 35.3	2.428	3.389	4.5	20.6
12 7	4 44.31	+ 3 35.4	2.256	3.203	5.8	20.5	12 7	4 44.27	+33 22.2	2.420	3.393	3.2	20.5
12 17	4 35.47	+ 3 47.1	2.297	3.216	7.4	20.6	12 17	4 34.96	+32 58.7	2.443	3.396	4.9	20.6
12 27	4 27.77	+ 4 12.4	2.365	3.229	9.8	20.8	12 27	4 26.86	+32 27.6	2.495	3.399	7.6	20.8
1 6	4 21.80	+ 4 49.8	2.459	3.241	12.1	20.9	1 6	4 20.66	+31 52.8	2.573	3.402	10.3	21.0
244261	2002 <i>CZ</i> ₂₅₁	12 4.9 359°26'	11°9'/ 1.6 18				446507	2014 <i>KC</i> ₇₁	12 4.9 248°03'	3°0'/ 4.1 18			
10 28	5 6.56	- 0 19.2	1.364	2.177	19.1	19.4	10 28	5 14.09	+15 46.1	1.908	2.707	14.9	21.9
11 7	5 4.44	- 0 2.5	1.305	2.172	16.3	19.2	11 7	5 9.67	+15 18.6	1.820	2.701	11.8	21.7
11 17	4 59.50	- 3 27.2	1.264	2.170	13.8	19.1	11 17	5 2.75	+14 51.5	1.754	2.694	8.1	21.4
11 27	4 52.48	- 4 29.3	1.244	2.168	12.1	19.0	11 27	4 53.94	+14 27.0	1.715	2.687	4.4	21.2
12 7	4 44.54	- 4 59.3	1.247	2.168	12.2	19.0	12 7	4 44.23	+14 7.3	1.703	2.681	3.2	21.1
12 17	4 36.97	- 4 54.0	1.272	2.170	13.9	19.1	12 17	4 34.74	+13 54.8	1.720	2.673	6.5	21.3
12 27	4 31.01	- 4 14.7	1.319	2.173	16.5	19.3	12 27	4 26.58	+13 51.3	1.764	2.666	10.4	21.5
1 6	4 27.53	- 3 7.2	1.383	2.178	19.2	19.5	1 6	4 20.60	+13 57.7	1.833	2.659	13.9	21.7
417403	2006 <i>JA</i> ₁₀	12 4.9 177°84'	0°6'/ 5.2 17				446360	2014 <i>HA</i> ₂₄	12 4.9 200°81'	0°3'/ 4.9 18			
10 28	5 12.38	+24 46.6	2.610	3.391	11.8	22.0	10 28	5 16.05	+22 42.8	2.095	2.883	14.1	22.2
11 7	5 7.70	+24 46.6	2.520	3.392	9.3	21.8	11 7	5 11.03	+22 28.7	2.004	2.880	11.1	22.0
11 17	5 1.08	+24 42.5	2.455	3.392	6.2	21.6	11 17	5 3.56	+22 10.5	1.937	2.877	7.4	21.8
11 27	4 53.06	+24 34.1	2.416	3.392	2.9	21.4	11 27	4 54.28	+21 48.2	1.896	2.873	3.4	21.5
12 7	4 44.40	+24 21.5	2.408	3.392	0.9	21.2	12 7	4 44.16	+21 22.8	1.885	2.869	1.0	21.3
12 17	4 35.95	+24 5.9	2.431	3.392	4.2	21.5	12 17	4 34.29	+20 56.4	1.904	2.865	5.2	21.6
12 27	4 28.53	+23 49.2	2.483	3.392	7.4	21.7	12 27	4 25.76	+20 31.9	1.951	2.860	9.1	21.8
1 6	4 22.81	+23 33.9	2.561	3.392	10.2	21.9	1 6	4 19.36	+20 12.2	2.023	2.855	12.6	22.1
241231	2007 <i>TL</i> ₁₆₉	12 4.9 148°97'	0°5'/ 5.1 18				370615	2003 <i>YK</i> ₁₂	12 4.9 325°21'	5°7'/ 7.1			

EPHEMERIDES

12 4.9

12 4.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
156875	2003 <i>DT</i> ₂₀		12 4.9 270°85	1.8/ 4.5	18		97666	2000 <i>FJ</i> ₃₃		12 4.9 315°20	2.5/ 5.5	18	
10 28	5 15.79	+18 46.5	1.682	2.486	16.4	20.5	10 28	5 13.18	+27 50.6	1.969	2.761	14.8	18.8
11 7	5 11.57	+18 32.1	1.587	2.471	13.0	20.2	11 7	5 9.43	+28 20.1	1.864	2.739	11.8	18.6
11 17	5 4.36	+18 16.6	1.513	2.456	8.8	19.9	11 17	5 2.92	+28 44.9	1.781	2.717	8.3	18.3
11 27	4 54.81	+18 0.7	1.464	2.440	4.3	19.6	11 27	4 54.19	+29 2.5	1.724	2.696	4.5	18.0
12 7	4 44.01	+17 46.1	1.442	2.425	2.2	19.5	12 7	4 44.23	+29 10.8	1.694	2.674	2.6	17.9
12 17	4 33.33	+17 34.7	1.449	2.409	6.6	19.7	12 17	4 34.25	+29 9.8	1.693	2.653	5.7	18.0
12 27	4 24.15	+17 29.2	1.482	2.393	11.3	19.9	12 27	4 25.57	+29 1.6	1.719	2.633	9.8	18.2
1 6	4 17.55	+17 31.6	1.539	2.377	15.5	20.2	1 6	4 19.23	+28 49.8	1.769	2.613	13.5	18.4
393341	2014 <i>BG</i> ₅₆		12 4.9 220°69	0°3/ 4.9	18		345375	2006 <i>BD</i> ₃₁		12 4.9 339°41	0°7/ 4.9	18	
10 28	5 17.38	+21 45.4	2.014	2.803	14.6	21.6	10 28	5 12.60	+20 52.4	1.313	2.140	18.9	21.2
11 7	5 12.27	+21 45.3	1.919	2.795	11.5	21.4	11 7	5 9.82	+20 53.8	1.233	2.130	14.9	20.9
11 17	5 4.53	+21 42.7	1.847	2.787	7.8	21.1	11 17	5 3.57	+20 53.4	1.172	2.121	10.1	20.6
11 27	4 54.79	+21 37.1	1.801	2.778	3.5	20.8	11 27	4 54.58	+20 51.1	1.134	2.113	4.6	20.3
12 7	4 44.04	+21 28.7	1.784	2.768	1.0	20.6	12 7	4 44.16	+20 47.5	1.121	2.105	1.5	20.1
12 17	4 33.46	+21 18.9	1.797	2.758	5.4	20.9	12 17	4 33.98	+20 44.2	1.133	2.099	7.1	20.4
12 27	4 24.23	+21 9.9	1.838	2.748	9.6	21.1	12 27	4 25.73	+20 44.0	1.170	2.093	12.5	20.7
1 6	4 17.25	+21 4.3	1.905	2.737	13.2	21.4	1 6	4 20.59	+20 49.5	1.229	2.089	17.1	21.0
139940	2001 <i>RR</i> ₁₃₅		12 4.9 5°64	6°8/ 3.4	18		385782	2006 <i>BG</i> ₄₂		12 4.9 13°82	0°5/ 4.8	16	
10 28	5 10.32	+ 8 13.1	1.521	2.335	17.4	19.6	10 28	5 8.93	+21 12.2	2.186	2.987	13.2	20.8
11 7	5 7.13	+ 7 20.4	1.453	2.336	14.0	19.4	11 7	5 5.34	+21 10.4	2.111	2.994	10.3	20.7
11 17	5 1.21	+ 6 35.1	1.405	2.337	10.5	19.1	11 17	4 59.67	+21 6.7	2.058	3.001	6.8	20.5
11 27	4 53.28	+ 6 2.6	1.380	2.338	7.5	19.0	11 27	4 52.52	+21 1.4	2.032	3.010	3.1	20.2
12 7	4 44.45	+ 5 47.3	1.381	2.341	7.1	19.0	12 7	4 44.72	+20 55.1	2.035	3.019	1.0	20.1
12 17	4 35.99	+ 5 51.7	1.408	2.345	9.5	19.1	12 17	4 37.19	+20 49.1	2.066	3.029	4.7	20.4
12 27	4 29.09	+ 6 15.7	1.459	2.349	13.0	19.3	12 27	4 30.84	+20 45.0	2.126	3.039	8.2	20.6
1 6	4 24.61	+ 6 56.9	1.531	2.354	16.3	19.6	1 6	4 26.32	+20 44.4	2.211	3.051	11.3	20.8
32145	Katberman		12 4.9 187°09	2°7/ 4.4	18 R		288483	2004 <i>FY</i> ₂₂		12 4.9 288°28	2°6/ 5.7	17	
10 28	5 17.60	+14 53.0	2.053	2.840	14.4	19.2	10 28	5 15.87	+28 56.5	1.907	2.695	15.3	21.2
11 7	5 12.18	+14 44.7	1.967	2.840	11.4	19.0	11 7	5 11.42	+29 16.6	1.818	2.690	12.2	21.0
11 17	5 4.32	+14 38.7	1.902	2.839	7.8	18.8	11 17	5 4.13	+29 29.8	1.751	2.685	8.6	20.7
11 27	4 54.65	+14 36.2	1.865	2.837	4.2	18.6	11 27	4 54.68	+29 33.4	1.709	2.680	4.7	20.5
12 7	4 44.11	+14 38.3	1.857	2.835	2.9	18.5	12 7	4 44.15	+29 26.3	1.695	2.675	2.7	20.4
12 17	4 33.79	+14 46.0	1.879	2.833	6.0	18.7	12 17	4 33.86	+29 9.1	1.709	2.670	5.7	20.6
12 27	4 24.78	+15 0.2	1.930	2.829	9.8	18.9	12 27	4 25.08	+28 45.3	1.751	2.665	9.7	20.8
1 6	4 17.89	+15 21.4	2.006	2.825	13.1	19.1	1 6	4 18.78	+28 19.4	1.818	2.660	13.3	21.0
18580	1997 <i>XN</i> ₈		12 4.9 1°32	2°8/ 5.6	18		421007	2013 <i>PJ</i> ₄₉		12 4.9 204°87	5°0/ 7.2	18	
10 28	5 16.28	+28 47.5	1.221	2.041	20.5	17.4	10 28	5 16.70	+39 42.2	2.614	3.353	12.9	21.0
11 7	5 13.06	+28 57.2	1.150	2.040	16.3	17.1	11 7	5 11.45	+40 1.1	2.521	3.351	10.7	20.8
11 17	5 5.86	+28 56.2	1.096	2.039	11.4	16.8	11 17	5 3.81	+40 8.0	2.451	3.348	8.3	20.6
11 27	4 55.59	+28 41.3	1.065	2.039	6.0	16.6	11 27	4 54.42	+39 59.7	2.406	3.346	6.1	20.5
12 7	4 43.87	+28 11.7	1.058	2.040	3.0	16.4	12 7	4 44.24	+39 34.8	2.389	3.343	5.0	20.4
12 17	4 32.66	+27 30.5	1.076	2.041	7.4	16.6	12 17	4 34.35	+38 54.2	2.402	3.340	6.0	20.5
12 27	4 23.85	+26 44.3	1.118	2.043	12.7	16.9	12 27	4 25.80	+38 1.6	2.443	3.337	8.2	20.6
1 6	4 18.62	+26 0.7	1.182	2.045	17.4	17.2	1 6	4 19.37	+37 2.2	2.511	3.334	10.7	20.8
406615	2008 <i>CD</i> ₉₂		12 4.9 221°99	6°0/ 3.2	18		56676	2000 <i>LC</i>		12 4.9 241°30	1°5/ 4.6	18	
10 28	5 12.69	+ 5 29.3	2.253	3.031	13.6	21.7	10 28	5 16.69	+19 45.1	1.800	2.598	15.7	20.4
11 7	5 8.10	+ 4 49.1	2.167	3.026	11.1	21.5	11 7	5 12.02	+19 27.8	1.707	2.588	12.4	20.2
11 17	5 1.46	+ 4 16.0	2.104	3.020	8.5	21.3	11 17	5 4.53	+19 8.2	1.635	2.577	8.4	19.9
11 27	4 53.32	+ 3 53.6	2.068	3.014	6.4	21.2	11 27	4 54.87	+18 47.1	1.589	2.566	4.0	19.6
12 7	4 44.46	+ 3 44.9	2.059	3.008	6.1	21.1	12 7	4 44.11	+18 25.9	1.571	2.554	1.9	19.4
12 17	4 35.79	+ 3 51.6	2.079	3.001	7.9	21.2	12 17	4 33.52	+18 6.8	1.582	2.542	6.2	19.7
12 27	4 28.18	+ 4 13.8	2.126	2.994	10.5	21.4	12 27	4 24.41	+17 52.7	1.621	2.530	10.6	19.9
1 6	4 22.34	+ 4 50.0	2.197	2.987	13.1	21.6	1 6	4 17.74	+17 46.1	1.684	2.517	14.6	20.2
371341	2006 <i>KX</i> ₃₄		12 4.9 36°40	0°3/ 5.1	17		236308	2006 <i>BH</i> ₉		12 4.9 325°37	3°1/ 4.2	18	
10 28	5 12.57	+23 9.7	2.284	3.074	13.1	20.9	10 28	5 11.92	+17 50.7	1.367	2.193	18.4	20.5
11 7	5 8.14	+23 18.7	2.201	3.077	10.2	20.7	11 7	5 9.09	+17 14.5	1.282	2.179	14.5	20.2
11 17	5 1.54	+23 24.9	2.140	3.080	6.8	20.5	11 17	5 2.97	+16 36.0	1.218	2.165	10.0	20.0
11 27	4 53.36	+23 27.7	2.107	3.084	3.1	20.3	11 27	4 54.28	+15 58.2	1.176	2.153	5.1	19.6
12 7	4 44.46	+23 27.2	2.103	3.087	0.8	20.1	12 7	4 44.26	+15 24.5	1.160	2.140	3.5	19.5
12 17	4 35.79	+23 24.2	2.128	3.091	4.6	20.4	12 17	4 34.45	+14 59.0	1.170	2.129	7.9	19.7
12 27	4 28.29	+23 20.3	2.182	3.094	8.1	20.6	12 27	4 26.42	+14 45.4	1.204	2.118	13.0	20.0
1 6	4 22.69	+23 17.7	2.262	3.098	11.2	20.8	1 6	4 21.30	+14 45.4	1.259	2.109	17.5	20.2
308922	2006 <i>SA</i> ₃₂₃		12 4.9 130°60	1°0/ 4.7	18		106845	2000 <i>YR</i> ₁₄		12 4.9 326°07	1°7/ 5.2	18 R	
10 28	5 15.03	+19 55.4	2.037	2.831	14.3	21.5	10 28	5 14.01	+24 9.8	1.182	2.013	20.3	18.6
11 7	5 10.20	+19 48.5	1.957	2.836	11.2	21.3	11 7	5 11.62	+24 39.8	1.099	1.997	16.2	18.3
11 17	5 2.98	+19 40.1	1.900	2.841	7.5	21.1	11 17	5 5.24	+25 7.2	1.034	1.983	11.2	18.0
11 27	4 54.03	+19 30.7	1.869	2.846	3.5	20.9	11 27	4 55.52	+25 29.2	0.991	1.969	5.5	17.6
12 7	4 44.30	+19 21.1	1.868	2.851	1.4	20.7	12 7	4 43.91	+25 43.2	0.971	1.955	2.0	17.3
12 17	4 34.87	+19 12.8	1.895	2.856	5.3	21.0	12 17	4 32.39	+25 48.8	0.977	1.943	7.7	17.6
12 27	4 26.80	+19 7.6	1.952	2.860	9.1	21.2	12 27	4 23.04	+25 49.2	1.005	1.932	13.6	17.9
1 6	4 20.84	+19 7.3	2.033	2.865	12.5	21.5	1 6	4 17.32	+25 49.0	1.054	1.922	18.7	18.2
361791	2008 <i>BP</i> ₃₁		12 4.9 280°02	3°4/ 4.1	18		484459	2008 <i>CW</i> ₁₃		12 4.9 250°75	0°5/ 4.9	17	

EPHEMERIDES

12 4.9

12 5.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
189222	2004 <i>FC</i> ₁₀		12	4.9 116°95	4.3/ 6.1	18	158865	2004 <i>PY</i> ₁₃		12	5.0 107°96	1.1/ 4.7	18
10 28	5 24.09	+32 44.0	1.862	2.629	16.4	20.8	10 28	5 17.81	+19 50.8	1.718	2.517	16.3	20.5
11 7	5 17.74	+33 24.4	1.793	2.648	13.2	20.7	11 7	5 12.75	+19 45.2	1.646	2.528	12.8	20.2
11 17	5 8.26	+33 55.1	1.745	2.667	9.5	20.5	11 17	5 4.87	+19 38.4	1.596	2.539	8.5	20.0
11 27	4 56.49	+34 11.4	1.723	2.685	5.9	20.3	11 27	4 54.97	+19 30.4	1.572	2.549	3.9	19.8
12 7	4 43.76	+34 11.0	1.730	2.702	4.3	20.2	12 7	4 44.19	+19 22.3	1.576	2.560	1.6	19.6
12 17	4 31.57	+33 54.6	1.766	2.718	6.5	20.4	12 17	4 33.85	+19 15.5	1.609	2.570	6.0	20.0
12 27	4 21.32	+33 26.5	1.830	2.734	9.9	20.6	12 27	4 25.19	+19 12.3	1.669	2.580	10.3	20.2
1 6	4 13.93	+32 53.0	1.919	2.749	13.2	20.9	1 6	4 19.05	+19 14.6	1.753	2.589	13.9	20.5
180682	2004 <i>GK</i> ₈₇		12	4.9 179°07	0.9/ 4.8	18	161878	2007 <i>CL</i> ₃₆		12	5.0 216°44	1.3/ 5.3	18
10 28	5 14.94	+19 37.9	2.027	2.821	14.4	20.9	10 28	5 18.26	+26 6.8	1.714	2.509	16.5	21.4
11 7	5 10.24	+19 41.2	1.942	2.821	11.2	20.7	11 7	5 13.48	+26 11.0	1.628	2.505	13.1	21.1
11 17	5 3.10	+19 44.0	1.880	2.821	7.5	20.5	11 17	5 5.63	+26 8.8	1.562	2.502	9.0	20.9
11 27	4 54.15	+19 46.2	1.844	2.821	3.5	20.2	11 27	4 55.41	+25 58.6	1.522	2.498	4.4	20.6
12 7	4 44.34	+19 48.2	1.838	2.821	1.3	20.1	12 7	4 44.06	+25 39.9	1.510	2.493	1.6	20.4
12 17	4 34.77	+19 50.8	1.860	2.821	5.3	20.3	12 17	4 32.99	+25 14.7	1.526	2.489	5.9	20.7
12 27	4 26.51	+19 55.6	1.911	2.821	9.2	20.6	12 27	4 23.63	+24 46.8	1.569	2.484	10.5	20.9
1 6	4 20.38	+20 4.0	1.987	2.821	12.6	20.8	1 6	4 16.99	+24 20.8	1.636	2.479	14.5	21.2
180749	2004 <i>LT</i> ₁₆		12	4.9 170°26	2.7/ 4.3	18	177844	2005 <i>NL</i> ₁₂₂		12	5.0 150°97	2.3/ 4.4	18
10 28	5 13.82	+14 42.5	2.273	3.061	13.2	20.5	10 28	5 14.09	+16 3.7	2.127	2.919	13.8	20.4
11 7	5 8.99	+14 27.2	2.189	3.063	10.3	20.3	11 7	5 9.36	+15 49.5	2.045	2.922	10.8	20.2
11 17	5 2.07	+14 13.8	2.128	3.065	7.1	20.1	11 17	5 2.39	+15 36.5	1.986	2.925	7.4	20.0
11 27	4 53.63	+14 3.8	2.094	3.066	3.9	19.9	11 27	4 53.80	+15 25.8	1.954	2.928	3.8	19.7
12 7	4 44.49	+13 58.4	2.090	3.067	2.9	19.8	12 7	4 44.48	+15 18.9	1.951	2.930	2.6	19.7
12 17	4 35.58	+13 59.0	2.116	3.068	5.6	20.0	12 17	4 35.41	+15 17.1	1.978	2.933	5.6	19.9
12 27	4 27.81	+14 6.6	2.170	3.069	8.9	20.2	12 27	4 27.57	+15 21.7	2.032	2.935	9.2	20.1
1 6	4 21.86	+14 21.4	2.250	3.069	11.9	20.4	1 6	4 21.70	+15 33.3	2.112	2.937	12.4	20.3
141959	2002 <i>PV</i> ₁₁₇		12	4.9 133°01	1.2/ 4.7	17	71078	1999 <i>XF</i> ₁₁₈		12	5.0 247°49	0.2/ 4.9	18
10 28	5 19.71	+20 45.2	1.743	2.537	16.3	21.3	10 28	5 15.86	+24 51.4	1.966	2.757	14.8	19.7
11 7	5 14.14	+20 25.2	1.671	2.549	12.7	21.1	11 7	5 11.13	+24 13.9	1.870	2.747	11.7	19.5
11 17	5 5.74	+20 2.2	1.620	2.561	8.5	20.9	11 17	5 3.79	+23 28.3	1.797	2.738	7.9	19.2
11 27	4 55.32	+19 36.7	1.596	2.573	3.9	20.6	11 27	4 54.50	+22 35.2	1.750	2.727	3.6	18.9
12 7	4 44.08	+19 10.4	1.600	2.583	1.6	20.5	12 7	4 44.30	+21 36.8	1.733	2.717	1.0	18.7
12 17	4 33.33	+18 45.9	1.633	2.593	6.0	20.8	12 17	4 34.37	+20 36.9	1.745	2.707	5.5	19.0
12 27	4 24.30	+18 26.2	1.695	2.603	10.3	21.1	12 27	4 25.87	+19 40.4	1.785	2.696	9.7	19.2
1 6	4 17.82	+18 14.0	1.780	2.612	14.0	21.3	1 6	4 19.67	+18 51.6	1.851	2.685	13.4	19.5
227659	2006 <i>BU</i> ₁₇₃		12	4.9 275°48	0.0/ 4.8	17	179600	2002 <i>NG</i> ₂₉		12	5.0 175°05	2.4/ 5.8	18
10 28	5 12.96	+23 12.5	2.214	3.005	13.4	21.4	10 28	5 21.93	+29 53.9	1.985	2.757	15.4	21.1
11 7	5 8.53	+23 3.1	2.127	3.004	10.5	21.2	11 7	5 15.90	+29 58.0	1.898	2.761	12.2	20.9
11 17	5 1.85	+22 49.8	2.063	3.004	7.0	21.0	11 17	5 6.99	+29 53.3	1.833	2.763	8.6	20.7
11 27	4 53.56	+22 32.6	2.026	3.003	3.2	20.7	11 27	4 55.95	+29 37.1	1.795	2.765	4.6	20.5
12 7	4 44.51	+22 12.3	2.018	3.002	0.8	20.5	12 7	4 43.95	+29 9.0	1.786	2.766	2.5	20.3
12 17	4 35.71	+21 50.7	2.039	3.001	4.8	20.8	12 17	4 32.34	+28 30.9	1.807	2.766	5.6	20.5
12 27	4 28.13	+21 30.2	2.089	3.001	8.5	21.1	12 27	4 22.39	+27 47.3	1.857	2.766	9.5	20.8
1 6	4 22.51	+21 13.4	2.165	3.000	11.7	21.3	1 6	4 15.00	+27 3.6	1.932	2.764	13.0	21.0
43537	2001 <i>EF</i> ₂		12	4.9 85°16	7.8/ 4.2	18	265992	2006 <i>DY</i> ₈₉		12	5.0 321°12	4.8/ 3.3	17
10 28	5 17.42	+ 0 47.9	1.851	2.622	16.4	18.3	10 28	5 10.70	+ 9 29.8	2.295	3.084	13.0	20.8
11 7	5 11.88	+ 0 22.4	1.795	2.643	13.5	18.2	11 7	5 6.52	+ 8 45.2	2.214	3.084	10.4	20.6
11 17	5 3.97	+ 0 10.8	1.760	2.664	10.6	18.0	11 17	5 0.39	+ 8 4.7	2.157	3.084	7.6	20.5
11 27	4 54.44	+ 0 17.0	1.750	2.685	8.4	17.9	11 27	4 52.87	+ 7 31.4	2.126	3.083	5.3	20.3
12 7	4 44.32	+ 0 43.2	1.767	2.706	7.9	18.0	12 7	4 44.73	+ 7 8.4	2.123	3.083	4.9	20.3
12 17	4 34.68	+ 1 28.7	1.812	2.726	9.4	18.1	12 17	4 36.80	+ 6 57.6	2.149	3.083	6.9	20.4
12 27	4 26.54	+ 2 31.2	1.883	2.746	11.9	18.3	12 27	4 29.94	+ 7 0.0	2.203	3.082	9.7	20.6
1 6	4 20.58	+ 3 46.5	1.978	2.766	14.4	18.5	1 6	4 24.77	+ 7 15.1	2.281	3.082	12.3	20.8
138162	2000 <i>EH</i> ₈₈		12	4.9 206°95	5.4/ 7.1	18	501562	2014 <i>MA</i> ₅₅		12	5.0 316°07	17.8/ 11.2	17
10 28	5 19.79	+39 0.6	2.162	2.911	15.0	19.8	10 28	5 27.31	+54 17.5	1.066	1.816	27.1	20.9
11 7	5 14.35	+39 15.8	2.071	2.908	12.4	19.6	11 7	5 25.56	+55 51.5	0.996	1.805	24.7	20.7
11 17	5 6.00	+39 17.1	2.000	2.905	9.5	19.4	11 17	5 16.62	+56 55.0	0.938	1.794	22.0	20.5
11 27	4 55.50	+39 0.4	1.955	2.901	6.7	19.3	11 27	5 1.26	+57 9.4	0.895	1.784	19.5	20.3
12 7	4 44.03	+38 24.0	1.937	2.897	5.4	19.2	12 7	4 42.58	+56 19.2	0.869	1.774	18.0	20.2
12 17	4 32.94	+37 29.3	1.949	2.893	6.7	19.3	12 17	4 25.05	+54 20.9	0.861	1.765	18.1	20.1
12 27	4 23.53	+36 21.6	1.988	2.888	9.5	19.4	12 27	4 12.64	+51 28.7	0.873	1.757	20.0	20.2
1 6	4 16.71	+35 7.8	2.054	2.884	12.4	19.6	1 6	4 7.07	+48 7.6	0.902	1.749	23.0	20.4
391217	2006 <i>HR</i> ₉₂		12	5.0 261°68	1.4/ 4.7	18	152572	1993 <i>TE</i> ₂₃		12	5.0 131°53	1.7/ 5.4	18
10 28	5 15.47	+18 54.5	1.807	2.607	15.6	21.6	10 28	5 19.52	+25 57.8	1.791	2.580	16.1	20.6
11 7	5 11.05	+18 49.2	1.717	2.599	12.3	21.4	11 7	5 14.23	+26 20.0	1.714	2.588	12.7	20.4
11 17	5 3.88	+18 43.3	1.648	2.591	8.3	21.1	11 17	5 5.98	+26 37.2	1.659	2.596	8.7	20.2
11 27	4 54.60	+18 37.4	1.605	2.582	3.9	20.8	11 27	4 55.53	+26 47.1	1.629	2.603	4.3	19.9
12 7	4 44.25	+18 32.4	1.590	2.573	1.8	20.7	12 7	4 44.08	+26 48.6	1.627	2.610	1.8	19.8
12 17	4 34.08	+18 29.6	1.604	2.564	6.0	20.9	12 17	4 33.00	+26 42.3	1.655	2.617	5.7	20.0
12 27	4 25.34	+18 31.0	1.645	2.556	10.4	21.2	12 27	4 23.62	+26 31.2	1.710	2.623	9.9	20.3
1 6	4 18.98	+18 38.3	1.710	2.547	14.2	21.4	1 6	4 16.87	+26 19.3	1.790	2.629	13.6	20.5
259892	2004 <i>DX</i> ₄₇		12	5.0 322°65	5.9/ 6.6	17	289883	2005 <i>MS</i> ₂₇		12	5.0 106°94	2.8/	